



FRIDAY, JUNE 23.

MASTER MECHANICS' ASSOCIATION. Fifteenth Annual Convention.

The fifteenth annual convention was opened at the International Hotel, Niagara Falls, on Tuesday of this week, by a prayer by Rev. John S. Bacon. Thirty-eight members responded at the roll-call. Ten gentlemen signed the constitution and were admitted to membership in the Association.

The President, Mr. J. N. Lauder, then read an address and the annual reports of the Secretary and Treasurer were submitted and accepted.

An elaborate paper on "Improvements in Boiler Construction," by Mr. Reuben Wells, was read and afterward discussed by the President and Messrs. Howard Fry and J. H. Flynn, when the discussion was temporarily postponed in order to place sketches of the drawings accompanying the report on the blackboard.

In the interval Mr. Wells proposed for discussion the following question: "What is the maximum limit of weight to be allowed per wheel for locomotives?"

Messrs. Howard Fry, F. M. Wilder, J. N. Lauder, James Sedgley, J. A. Durgin and Wm. Woodcock took part in this discussion.

Mr. Woodcock then asked: "In what part of a locomotive boiler should checks be placed, either for pumps or injectors, to produce the best results?"

The proponent, the President and Messrs. Fry and Hayes made replies.

The blackboard now being adorned with sketches of an English system of making boiler seams, the discussion of Mr. Wells' paper was resumed by the President and Messrs. Hayes, Durgin, Fry and Wilder.

Committees were appointed as follows:
Finance—Wm. Woodcock, M. M. Pendleton.
Auditing Accounts—J. M. Boone, H. L. Leach and
Correspondence—J. H. Flynn, R. H. Briggs and F. M. Twombly.

On the committee on subjects for discussion at next meeting Mr. Howard Fry succeeds Mr. J. Johann.

The courtesy of free carriage to all the points of interest in the vicinity of Niagara Falls was tendered to all members of the Association and their families by a number of the prominent manufacturers of railroad supplies for any time during Tuesday, Wednesday and Thursday. The International Hotel proprietors give a complimentary "hop" on Wednesday evening. On Thursday evening there will be a reception and music, and on Friday an excursion to Portage, offered by the New York, Lake Erie & Western Company.

The manufacturers joining in the invitation are as follows:

Brooks Locomotive Works.	Murphy Varnish Co.
Baldwin " "	L. B. Flanders Machine Co.
Rogers " "	Standard Steel Works.
Schenectady " "	Nashua " "
Cooke " "	Midvale " "
Pittsburgh " "	Otis Iron & " "
Rhode Island " "	Nathan & Dreyfus.
Grant " "	W. W. Snow.
Taunton " "	Ashton Valve Co.
Mason " "	Thos. Frosser & Son.
Manchester " "	Galena Oil Works.
Dickson " "	J. C. Sibley.
Crerar, Adams & Co.	J. A. Williams & Co.
Norway Iron Works.	Post & Co.
Manning, Maxwell & Moore.	Geo. R. Meneeley.
Ashcroft Mfg. Co.	Allen Paper Wheel Co.
Consol. Safety Valve Co.	National Tube Works.
L. G. Tillotson & Co.	H. A. Rogers.
F. S. Pease.	A. French & Co.

They are represented by the following Executive Committee: H. G. Brooks, Chairman; Chas. T. Parry, Aretus Blood, Charles Ellis, R. S. Hughes, William Berdan, M. A. Herrick, William Burnham, I. K. Bole, Charles A. Moore, H. G. Ashton, Edward S. Shepherd, F. S. Pease, H. A. Rogers, General Greeley, Charles Miller, M. L. Hinman; William Toothe, Treasurer.

MASTER CAR-BUILDERS' ASSOCIATION. Sixteenth Annual Convention.

At the opening of the third day's proceedings, President Garey reported that the rooms of the Association at No. 113 Liberty street, New York, had been kept open during the year without expense to the members. The rooms had been kept open for the last 12 years. During that time monthly meetings had been held from October to May, at which all manner of subjects pertaining to car construction and repair had been discussed. Some of the meetings had been very interesting, and occasionally they had had lectures and experiments. Usually they had for discussion subjects that had been given to committees at the annual meetings. The discussion had been of great help to the committees in preparing their reports.

The report of the Committee on Standard Wheel Gauge was then taken up for discussion. (This report is given elsewhere.)

Mr. W. R. Davenport, of the Erie Car Works, was strongly of opinion that the Convention should decide what kind of wheels the manufacturers ought to make. The makers, he said, were waiting for some definite action on the part of the Association. He was in favor of the establishment of a uniform width, thickness, thread and shape. He knew of wheelshops that had stopped making patterns until the Association had agreed upon a standard. Other speakers upon this subject were F. D. Adams, of the Boston & Albany; John Kirby, Lake Shore & Michigan Southern; Leander Garey and M. N. Forney, of the Railroad Gazette.

Mr. Forney moved a resolution to the effect that the Committee should be instructed to get the opinions of the car-builders and wheel makers on the proposed wheel tread and report at the next meeting; that the wheel makers be there invited to take part in the discussion of the subject and that members be requested to make some experiments relating to the best form of wheel. John S. Lentz, of the Lehigh Valley Railroad, Packerston, Pa., said his company had been making experiments in that direction, but regretted that they were not yet complete. He had pleasure in seconding Mr. Forney's motion and trusted it would be carried. Mr. Garey was in favor of giving latitude to the wheel makers, but he held that the makers had no right to regulate the diameter and width over all of the wheel. He contended that if the wheel makers were granted that privilege there would soon be wheels of all widths and diameters. After a little further talk the resolution was received and referred for

consideration to a committee comprising D. Hoyt, of the Toledo, Wabash & Western Railroad, Toledo, O.; R. C. Blackall, of the Delaware & Hudson Canal Company, Albany, N. Y., and F. D. Adams. A resolution submitted by Mr. Forney and adopted by the meeting was to the effect that the standard moulds for 33-inch wheels be 33½ inches, and for 30-inch wheels, 30½ inches. C. E. Garey, of the New York & Harlem, moved that the distance over all, from outside tread to inside of flange, be 5½ inches. This was agreed to. There was a long discussion following a proposition to change the plan of lateral play when putting the wheels upon the axles. Messrs. Garey, Forney, W. T. Hildrup, C. A. Smith, W. R. Davenport, F. D. Adams and Thomas A. Bissell took part. It was eventually proposed that the subject should be considered at the next meeting. This motion was lost, and one by Mr. Davenport was agreed to, adopting the wheel-gauge recommended by the committee. Mr. Davenport then moved that the discussion of the limit on inside gauge should be referred to the committee with the request that they report at the next meeting. The resolution was carried, after some discussion, as was also the following, which was submitted by Mr. Forney, "That the sense of this meeting is that all the gauges recommended by the committee on wheel-gauge should be in use in all repair or car-building shops or their equivalent, except the limit gauge referred back to the committee."

TRIAL OF TRAIN BRAKES.

The following report was submitted by C. E. Garey: "The committee appointed yesterday to make arrangements for the trial of the Tallman freight-train brake on one of the New York line stock express cars on exhibition in their city respectfully submit the following: The arrangements were perfected, and the trial duly made. The train was composed of a locomotive and tender, and one stock car, equipped with a brake, and two passenger coaches. Several stops were made, which was quite satisfactory to those who availed themselves of the opportunity to witness the same, one of them resulting as follows, brakemen being supplied by the engineer to the driver sufficient to set the brakes on the stock car: speed, 25 miles an hour; stopping distance, 300 feet."

The report was received and adopted.

AUTOMATIC COUPLERS.

The report of the Committee on Automatic Draw-Bars was presented by J. S. Lentz as follows:

"We find the subject of automatic couplers to be one of vast magnitude. Probably there is not any subject in connection with car construction that has attracted and is attracting more attention than this, as is evident from the fact that above 3,000 patents have been issued, and still there is no end of them. To get at an intelligent idea of what is now being generally used, and its results we issued about 100 circulars, to which we received 28 replies. Of these, 17 roads have not had any experience of automatic draw-bars, 4 are using the Safford; 2, the Perry; 1, the Adams; 1, the Lehigh and Safford, but all to a limited extent. We have also examined a great many models, some of which have special merit; but as there may be many others of equal merit that have not come to our notice, we refrain from mentioning any in particular. It does not appear to be a difficult matter to select a coupler which would be perfectly automatic in itself, but the difficulty presents itself in finding one that will work automatically. The matter of uniformity in the height of draw-bars is one great barrier in the way of a perfect automatic coupler. From the information we have received, and the knowledge we have obtained by personal investigation, we are unable at this time to recommend any automatic draw-bar for the standard. We would recommend that the subject be continued, and referred to committee of five, whose duty it shall be to investigate the merits of the various couplers, and, when they have decided upon a certain number as having special merits, they shall request the car builders of as many roads as is in their judgment advisable, to give them a thorough test."

The report was adopted.

STANDARD SCREW THREADS.

M. Forney, representing the Committee appointed to investigate the present construction of screws and nuts used on cars, the amount of accuracy it is desirable to secure, and the best means of maintaining the standard adopted by the Association in Richmond on June 15, 1871, presented a long, comprehensive and exhaustive report, the main points of which he illustrated with the aid of the black-board. (This report will be published in full hereafter). The committee, in concluding their report, recommend that the Association, in conjunction with the Master Mechanics' Association, procure a set of the unhardened gauges manufactured by the Pratt & Whitney Company, and that these be kept among the archives of one or the other of the associations as the standard measurement of screw threads for ultimate reform in case of need. They would also suggest the adoption of the following resolution:

"That this Association deprecate the use of screws larger or smaller in diameter by a small fraction of an inch than the sizes specified for the Sellers or Franklin Institute system, and that all its members are urged to abandon the use of over or undersize screws. That a copy of this report, with a circular, calling attention to the importance of adopting the correct standard Sellers' system screw threads, be sent to the presidents, managers, superintendents and master car-builders of the United States, Canada and Mexico."

The report met with unanimous approval, and was adopted.

NEXT MEETING.

The Committee appointed to prepare subjects for the next annual meeting were requested to report at the adjourned meeting, which it was decided to hold on the second Tuesday in October, at Niagara Falls. The subject of appointing a joint committee of the two associations to fix the time and place of the next annual meeting was held over to the October meeting.

Mr. Davenport exhibited specimens of Southern yellow pine, and Norway pine, which had been tested in the United States standard testing machine, and also in a Thurston torsion testing machine, the experiments had shown, he said, that the Norway pine was nearly 30 per cent. stronger than the Southern pine.

The Committee on the place for holding the next annual meeting reported in favor of Buffalo or Indianapolis. Action on the report will be taken at Niagara Falls. A vote of thanks was passed to Pratt, Whitney & Co. for their endeavors to establish a class of gauges which can be relied upon.

At 2 o'clock the Convention adjourned, to meet at Niagara Falls on Oct. 10 next.

After adjournment visits were paid by members to the Baldwin Locomotive Works, the Hook Smelting Works, the shops of Wm. Sellers & Co., and other points of interest.

On the following day (Friday) the members of the Association went on an excursion to Atlantic City by the West Jersey road. The train left Philadelphia at 9:10 a. m. At Atlantic City they were entertained at dinner and returned in the afternoon well pleased with their trip.

The entertainment of the members of the Association was

in the hands of Philadelphia manufacturers and others, who were represented by the following committees:

Executive Committee.—J. B. Ecclesine, Jr., Andrew Wheeler, Dell Noblit, James M. Hibbs, H. S. Hale, George Buntin, W. F. Griffiths, D. L. Sylvester, Thos. S. Harrison.
Finance Committee.—James M. Hibbs, Dell Noblit, Andrew Wheeler, C. S. Bement, W. C. Allison.
Banquet Committee.—Clement R. Hoopes, J. W. Hoffman, George W. Elkins, George Buntin.
Transportation Committee.—W. F. Griffiths, Dell Noblit, J. B. Ecclesine, Jr.
Printing Committee.—H. S. Hale, C. H. Howell, G. M. Brill, J. B. Ecclesine, Jr., A. J. Wright.

Yardmasters' Mutual Benefit Association.

The annual convention of this Association met in Baltimore, June 14, with a large attendance of delegates.

The meeting was called to order by President George W. Evans, who delivered his annual address.

The address and recommendations were referred to a committee, composed of Messrs. Campbell, Reynolds, Randall, Reed and Sanborn. A committee, consisting of Messrs. McClosky, Sanborn, Johnson, Nones, Raymond and Cooper, was also appointed to invite the superintendents and officials of railroad divisions terminating in Baltimore to attend the convention, and another committee was authorized to invite the yardmasters of Baltimore to seats in the convention.

After a recess, during which the delegates attended a reception given by Mayor Whyte, business was resumed.

The Executive Committee submitted their report, which stated that since the last annual convention the Association had prospered beyond the most sanguine expectations of the members. This success had been due to a spontaneous effort on the part of a majority of members, who have ever had the welfare of the Association at heart, and have established an institution on the corner-stone of which is engraved "Charity, Brotherly Love and True Friendship." Much credit is due the young members for the increase of membership, and no member can forget the labor and pains taken by the worthy president, secretary and treasurer. The report was accepted.

Messrs. Campbell, Carney, Brookfield, Lancaster, Stegall, Rayner and Randall were appointed a committee on constitution and by-laws. After considering the recommendations of the president in his annual address, the committee reported adversely to the adoption of any secret sign, grip or pass-word among the members, but that any member desiring a traveling card could obtain it from the superintendent of his division. Accordingly this recommendation of the president was, upon motion of E. A. Cooper, indefinitely postponed.

The report of the secretary and treasurer, Mr. Joseph Sanger, was read, and showed that on April 30, 1881, there were 402 members; received during year 233; forfeited membership for non-payment of dues, 89; deceased, 7; total membership at date, 509. Cash in treasury April 30, 1881, \$452.49; received from admission fees, \$406; from assessments, \$2,182; total, \$3,040.49; expenses, \$2,443; balance in treasury, \$597.49. The report was adopted.

Messrs. R. D. Stegall and J. C. Campbell, a committee appointed on signals at the last regular meeting, reported in favor of "uniform system," which would greatly reduce the number of accidents now continually happening. The yard-masters all over the country were in favor of a uniform code, by which yard and junction work could be more expeditiously accomplished and with fewer accidents. The different uses to which the motions of the lamp are applied would scarcely be believed except upon reading the printed "signal rules," of the various railroads in this country, and taking into consideration the roving habits of most railroad employees, the advantages which would accrue from a uniform code are obvious. The report was accepted, and a copy ordered to be sent to the Association of Railroad Superintendents. After some other minor business, the convention then adjourned until evening.

The convention reassembled at 8 p. m., and the committee appointed to wait upon the superintendents and yardmasters of the roads in this city reported that they had invited a number of those gentlemen to attend the convention; that they had accepted the invitation, and the Baltimore & Ohio yardmasters desired the Association to pay them a visit. An amendment was offered to the constitution requiring all persons entering the society to pass a health examination by a physician. This was lost, as was also an amendment requiring members to report all strikes to the officers of the Association.

On the second day the only business transacted was the election of officers and the usual routine business.

After adjournment the members of the Association took a trip down the harbor on the steamer "Latrobe" as the guests of the city. Many of them visited the Baltimore & Ohio yards. On the following day the delegates made a visit to Washington, and the meeting concluded with a supper.

The next convention will be held in Denver.

A Standard Wheel Gauge.

The following is the report presented to the Master Car-Builders' Association last week by the Committee on Standard Wheel Gauge:

To the Master Car-Builders' Association:

MR. PRESIDENT AND GENTLEMEN: Your Committee on Standard Wheel Gauge would respectfully submit the following report:

When the committee was appointed they were directed to confer with civil engineers of railroads with a view of arriving at the general manner in which they gauged their track, the allowance for clearance in frog-guards, guard-rails, etc.

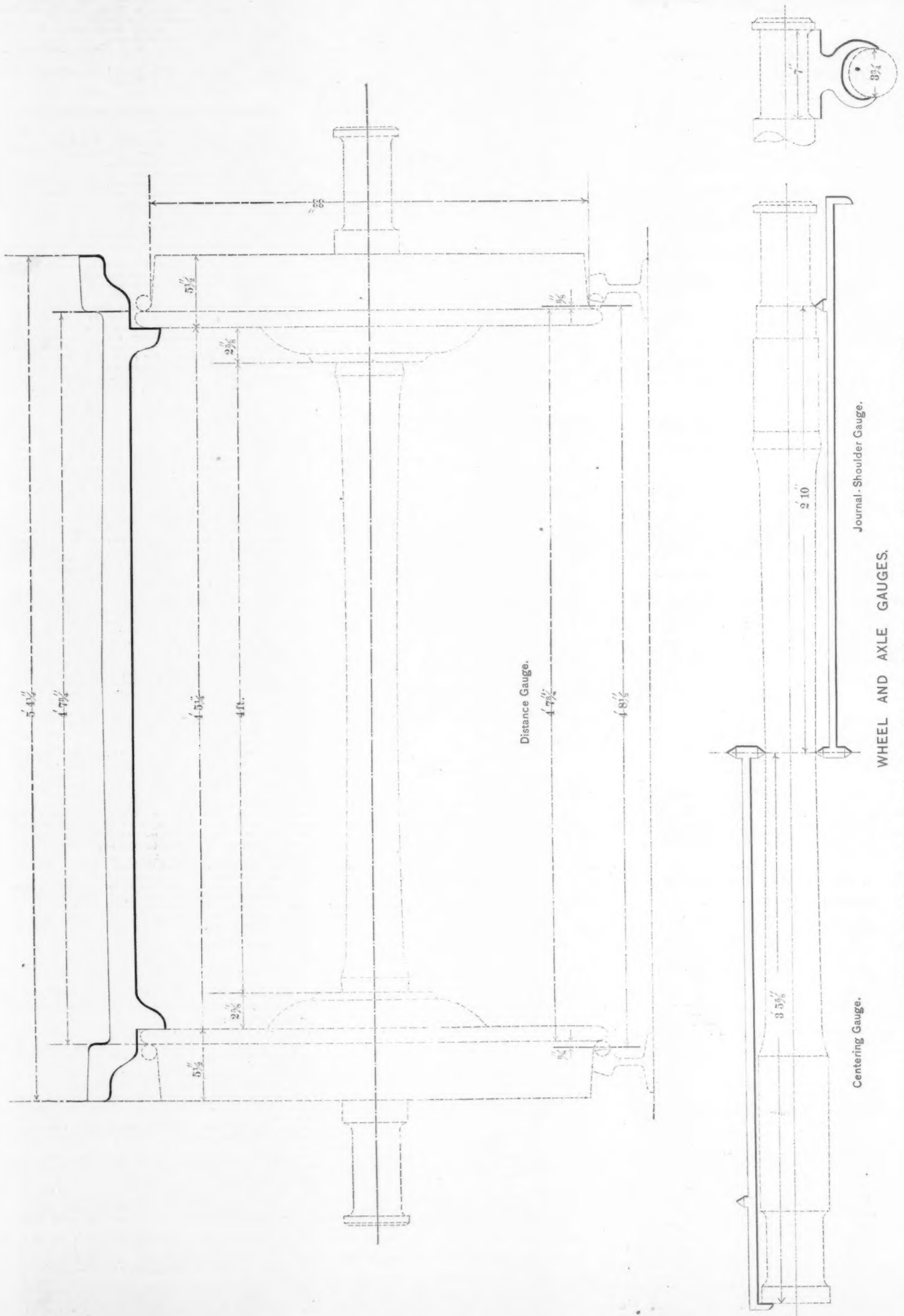
From the information thus obtained your committee find that the most common practice in laying track is as follows:

On tangents tight gauge or 4 ft. 8½ in. between rails; on curves from 1 to 7 degrees, ¼ in. clearance, or 4 ft., 8½ in. between rails; on curves from 7 to 10 degrees, ½ in. or 4 ft. 9 in. between rails; on curves over and above 10 degrees, ¾ in. or 4 ft. 9½ in. between rails. The most common practice is to allow 1½ in. clearance in the guard of frogs and 1¼ in. clearance in the guard-rails opposite the point of the frog.

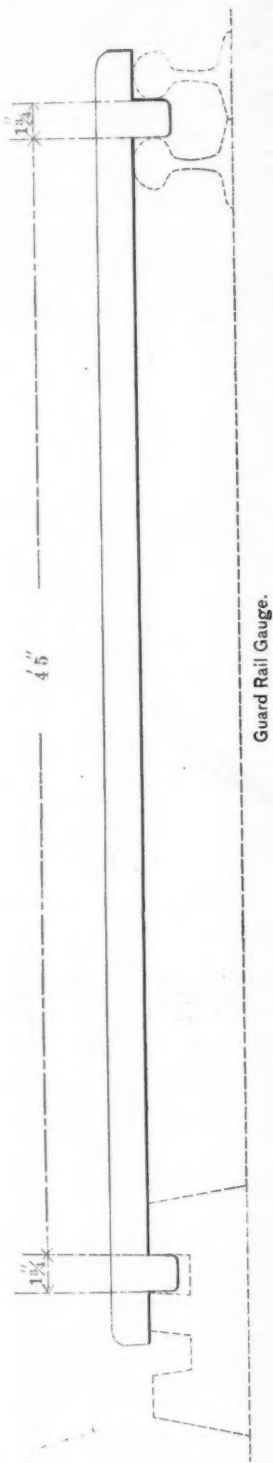
We find that no regard is taken by many railroads as to the position of the guard-rail. When frogs are laid on curves they generally secure them to the usual distance of 1½ in. from the main rail, disregarding the allowance given the track on curves.

Your Committee suggest that the clearance of the guard-rails on tangents should be opposite the point or frog, the same as the guard in the frogs, 1½ in. or 2 in. as the case may be, and on curves the clearance between the guard-rails should be as much greater as the difference may be in the width of the main rails over and above 4 ft. 8½ in. gauge.

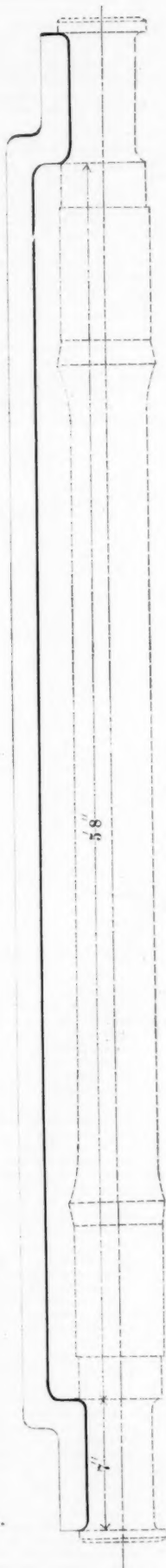
Civil engineers and track-masters say to us that we must



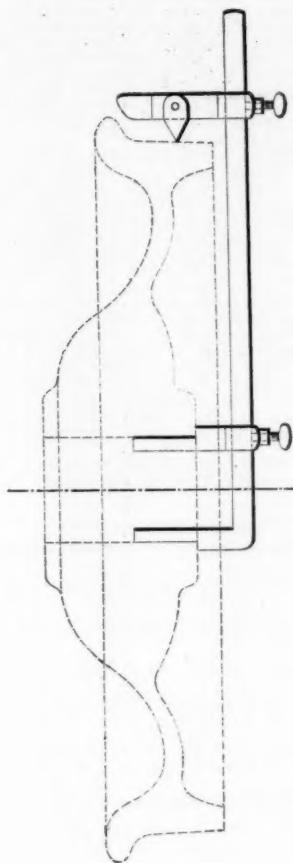
(Referred to in Report of the Committee of the Master Car-Builders' Association on a Standard Wheel Gauge, page 371.)



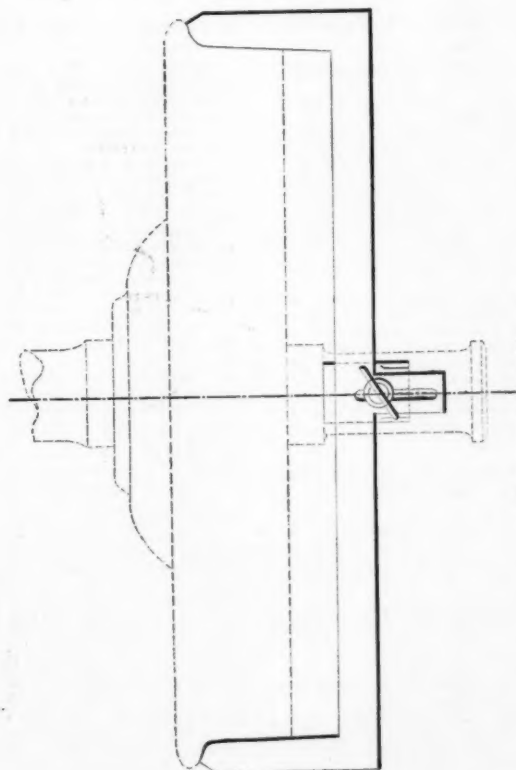
Guard Rail Gauge.



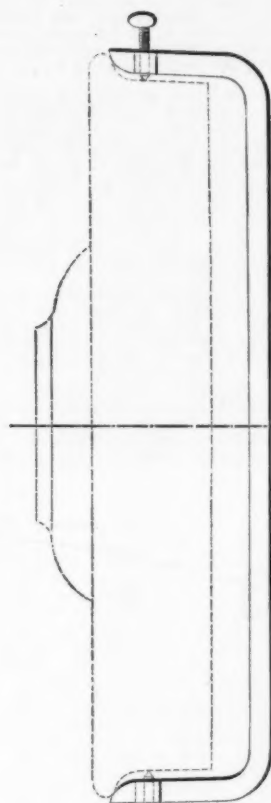
Journal Distance Gauge.



Wheel-Bore Testing Gauge.



Flange and Journal Gauge.



Diameter Testing Gauge.

WHEEL AND AXLE GAUGES

(Referred to in Report of the Committee of the Master Car-Builders' Association on a Standard Wheel Gauge, page 371.)

gauge our wheels to conform to their track, and your Committee are of the opinion that they are right, and that the cause of many accidents has been oftener the fault of the gauge of wheels than with the gauge of tracks. One of the principal discussions at our annual meetings have been how to make the gauge of wheels for a 4 ft. 8½ in. track conform to all other gauges from 4 ft. 8½ in. to 4 ft. 10 in., and your Committee cannot suggest and do not deem it prudent, safe or consistent to suggest such a gauge.

It is becoming more and more apparent how the question can be solved, when we notice that they are fast discarding the different gauges for the one most in general use—4 ft. 8½ in.

From the many and various answers received from our inquiry as to the size of wheel-gauges used by different roads for the 4 ft. 8½ in. gauge of track we find the majority favor a clearance of ¾ in., claiming that this distance has been practically demonstrated as being the most economical in operation, and that the tonnage of the trains has been decidedly increased by the change from ½ to ¾ of an inch clearance.

There seems to be, however, a difference of opinion with your Committee, the minority of which think that with the present construction of the 4 ft. 8½ in. gauge, its clearance of 1½ in. in the guard of frog and the same in the guard-rail, and with the tendency of trains to spread the rails, that ¾ in. clearance is sufficient for the wheels, and any deviation from it is detrimental to the flanges of the wheels and to the rolling stock generally, the proof of which can be shown conclusively when you consider the diminished clearance between the flanges of the wheels and the increased clearance in the gauge of the tracks, particularly when passing through frogs and curves.

Therefore we could not agree upon a standard gauge for wheels under the conditions of the present construction of the 4 ft. 8½ in. track with its curves, frogs and fixtures, and as your Committee could not report unanimously on a uniform standard wheel-gauge it was thought best to leave it to the consideration of the Association.

The Committee are unanimous in their opinion that the wheels should be gauged between the flanges on the inside of the wheels, as this point remains fixed and governs the position of the distance in guard-rails, while the wear on the front of flanges continually changes their shape, and it

members shall have all the privileges of active members, and in addition thereto, on all measures pertaining to the adoption of standards for car construction, or the expenditure of money, they shall each have one more vote for each thousand cars the company which they represent owns. [No railroad company shall have more than one representative member.]* In the enumeration of four, six or twelve-wheeled cars, four axles to count as one car. The dues of representative members shall be in proportion to the whole number of votes they are entitled to cast. Their membership shall cease if their appointment is revoked by any officer authorized to make it, or when such a member leaves the employ of the company by which he was appointed.

This amendment was discussed at considerable length, but was finally referred to this Committee with instructions "to take what steps they like towards making the thing public, and getting the opinions of the various corporations, etc."

In accordance with these instructions, your Committee prepared the following circular, and sent copies of it to all the presidents, general managers, superintendents and the members of the Association in this country and Canada.

[This circular was published in the *Railroad Gazette* of April 14 last, page 219.]

To this circular the committee have received about 50 replies. Of these only one is distinctly opposed to the amendment. That one is from Mr. Watrous, President of the New York, New Haven & Hartford Railroad Company, and inasmuch as it expresses opinions contrary to those entertained by your committee, his letter will be read entire. He says:

"We doubt whether any amendment to your constitution giving to one member of the Association more voting power than any other member has will be promotive of the best interests of the railroads and of the public. Of course no vote of the Association can bind anybody other than the members themselves, nor them even if the vote is in conflict with the duty of members to their respective employers. Your powers, therefore, are advisory entirely, so far as the railroad companies are concerned. Viewed from this standpoint, your recommendations and advice must depend for their force and effect mainly upon their own merits and the intelligence and integrity of the men from whom they come."

"It follows, I think, that if you attempt to give a member a power in your deliberations measured by the number of cars

Marquette Railroad, also dissents from the feature in the proposed amendment which makes the voting power of representative members proportionate to the number of cars owned. The reasons he gives for his dissent are almost identical with those so clearly and ably set forth by Mr. Watrous. Mr. Charles Paine, General Manager of the New York, West Shore & Buffalo Railroad, and Mr. Carr, General Superintendent of the Columbus, Hocking Valley & Toledo Railway Company, also express doubt of the wisdom of that feature of the amendment. With these exceptions, all the others who have replied to the circular are distinctly in favor of the proposed measure.

Mr. Haines, General Manager of the Savannah, Florida & Western and the Charleston & Savannah Railways, writes: "I have now to say that I appreciate the importance of the measure you propose and its value to the railroad interests of the country, under certain restrictions."

"The doubt which I have as to its usefulness arises from my fear of the control of the Association lapsing through the indifference of a majority of its members into the hands of some ring interested in a patent, or passing under the control of some able member of the body who has a particular hobby to ride."

"If the Association could be protected against such influences, I believe there would be no difficulty in its obtaining the hearty support of railroad management in general." A second letter from Mr. Haines expresses his general approval of the measure.

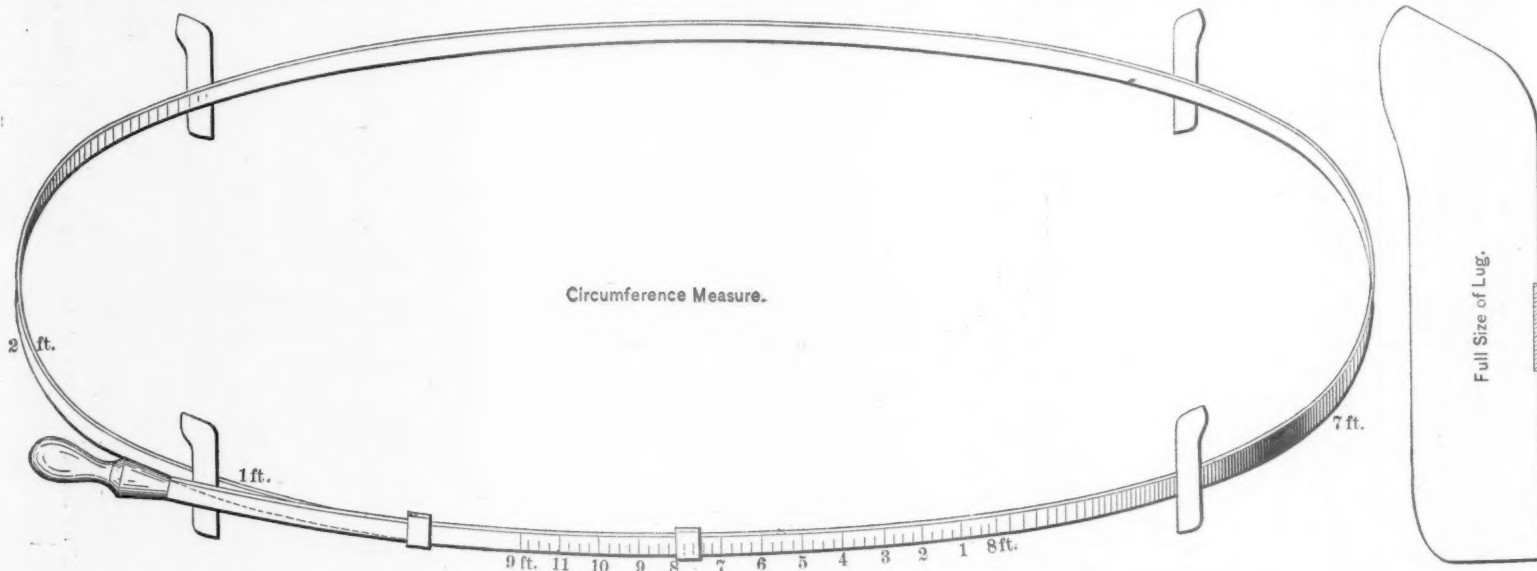
The following are extracts from the answers received:

Mr. Hall, General Manager Sioux City & Pacific road: "I see no objection to the proposed change in the constitution of your Association, and should its meetings be held within convenient distance for us, we should be glad to join the Association and send a representative."

Mr. Waldron, General Manager of the Lake Erie & Western: "We are heartily in accord with the views expressed * * * and will join you in your endeavors to secure uniformity."

Mr. Robinson, President of the Seaboard & Roanoke and other railroad companies: "Our companies will be pleased to unite in any way that appears best to carry out the object of the Master Car-Builders' Association."

Mr. Burr, Superintendent Southern Maryland: "The proposed plan of reorganization of the Master Car-Builders'



(Referred to in Report of the Committee of the Master Car-Builders' Association on a Standard Wheel Gauge, page 371.)

leaves no definite point to work from when refitting old wheels.

This suggestion necessitates a uniformity in shape of flanges and width of tread of wheels.

Your Committee respectfully submit the accompanying drawing for wheel-gauge, which may be used to gauge from either side of the flanges, more particularly for gauging wheels in interchange of cars, also standard gauges for shops, classified diameter-testing gauge, wheel-bore-testing gauge, axle-centering gauge, journal-shoulder gauge, journal distance gauge, journal length and diameter gauge, flange and journal gauge, guard-rail gauge and wheel circumference gauge, also a full-size tracing of section of wheel,* and recommend their adoption.

Your Committee would further suggest to this convention that a standard gauge for guard-rails be recommended to engineers, road-masters and trackmen generally to insure the proper distance of guard-rails from frog-guards, so as to prevent unnecessary strain on wheels and axles in passing through frogs. Respectfully yours,

R. C. BLACKALL,
DAVID HOIT,
F. D. ADAMS, } Committee.

Amendment to the Constitution of the Master Car-Builders' Association.

The following is the report of the committee on a proposed amendment to Article III. of the Constitution of the Master Car-Builders' Association made at the convention last week:

At the last annual convention an amendment to the constitution of this Association was proposed so as to make Article III. read as follows:

ARTICLE III.

"SEC. 1. There shall be three classes of members, active, representative and associate members."

"SEC. 2. Any person holding the position of Superintendent of the Car Department, Master Car-Builder or Foreman of a railroad car shop, or one representative from each car manufacturing company, may become an active member by signing the constitution, or authorizing the President or Secretary to sign for him, and paying his dues for one year."

"SEC. 3. Any person having a practical knowledge of car construction may become a representative member, by receiving a written appointment from the President, General Manager or General Superintendent of any railroad company, to represent its interests in the Association. Such

owned by his employer, instead of by his own character and intelligence, you may find yourselves compelled to recommend or advise something which your best intelligence and best men do not approve, for it is not safe to say that the man whose employer owns the most cars is always able to give the best advice."

"I am quite sure your Association will be most useful to the companies who own and the public who use the railroads of the country if you leave your corporate action to be shaped by the intelligence, experience and uprightness of your members, regardless of the amount of property, in cars or anything else, held by their employers. There is a wide field of usefulness before your Association. Uniformity, in the size, etc., etc., of cars (particularly freight cars) and car parts is of great importance to the railroads and to the country. As the cars of almost any railroad company go almost everywhere, and are liable to require repairs wherever they go, and must be handled by a new set of trainmen as often as they get on to a new road, it is very clear that the nearer each is to the other (except as to the necessary evidences of ownership) the better for all concerned."

"Trainmen are much more likely to get hurt when compelled to work trains made up of cars of various kinds and styles. This is especially true when the coupling devices are different. Indeed the desideratum of the hour is a coupler for freight cars combining safety to the men and economy to the companies. To this end uniformity is well nigh indispensable."

Your Association can do much in this direction if it is understood that your recommendations represent the honest judgment of your body; but not much, if it is understood that these recommendations depend at all on the wealth, in cars, of some of your employers."

"Besides the fact that the member of the Association whose employer has the largest number of cars may not be either the wisest or most experienced adviser, but may be quite the opposite, there is the further danger that his power, under the proposed amendment, may subject him to strong temptations to dishonesty. This danger, whether he ever yielded to this temptation or not, would tend still further to impair the value of your recommendations."

"I sincerely hope your Association will remain a body of practical men, in which each member will have just the weight and power that his intelligence, experience and integrity entitle him to, and no more. If it does, there is much of good that your Association may yet do, and much that it may reasonably be expected to do to make the railroad interest of the country, and the country itself, better because your Association exists."

"Very truly yours,"

"GEO. H. WATROUS, President."

Mr. Edwards, Assistant General Manager Flint & Pere

* This is the same as the section published in the *Railroad Gazette* of May 12 of this year.

* The words in brackets were proposed as an additional amendment, but no action was taken on them.

Association is one that should meet with the hearty approval of railroad men. As such I fully endorse the measure, and if adopted, will take pleasure in appointing a representative from this road."

Mr. Finney, General Manager Wisconsin Central: "The circular regarding the reorganization of the Master Car-Builders' Association I have read with interest and with care, and it commends itself very strongly to my mind. I shall be most happy to see its provisions carried out and believe that it will be of great value to the railroad companies of the country."

Mr. Du Pont, President Wilmington & Northern: "As we handle a great many foreign cars, I strongly approve of every step towards the general adoption of uniform standards in car construction."

"In the event of the measure being carried out substantially as proposed, this company will probably appoint a representative."

Mr. Bradbury, General Manager, Peoria, Decatur & Evansville: "I approve heartily what is proposed, and think every railroad should lend its aid and encouragement to the Association."

Mr. Axtell, General Manager Richmond & Allegheny: "The proposed change in the organization of the Master Car-Builders' Association seems to me to offer an assurance of increased usefulness, and unless unfavorable features, not now apparent, are presented, this company will be glad to appoint a representative."

Mr. Harding, President Galveston, Houston & Henderson: "I approve of the plan and its objects."

Mr. Hartman, Superintendent Little Rock & Ft. Smith: "I am heartily in favor of this effort to place the Master Car-Builders' Association upon a higher and broader plane of usefulness. Had this step been taken ten years earlier and a uniform standard adopted for the various classes of cars, I doubt not that the result would have been millions of dollars saved to the railroads of this country, and a large decrease in accidents to trainmen. If your proposition is now carried out as set forth in your circular, we shall be glad to aid you in any way we can."

Mr. Butler, General Superintendent Louisville, Evansville & St. Louis: "This company most heartily approves the recommendations contained in your circular, and will fully cooperate in the effort of the committee to establish the needed reforms."

Mr. Gatchell, General Superintendent Buffalo, New York & Philadelphia: "This company approves of the measure, or the proposed amendment to the constitution of the Association, and undoubtedly will appoint a representative."

Mr. Flemming, Superintendent Savannah, Florida & Western: "This company is in full accord with your movement, and anything we can do to assist in carrying on the work will afford us pleasure."

Mr. Raoul, Vice-President Central Railroad & Banking

Co., of Georgia: "I approve of the suggestions made, and appreciate fully the importance of a more united effort to secure uniformity."

Mr. Swanson, General Superintendent Houston & Texas Central: "I heartily approve of the proposed plan of reorganization, admitting representative members. In the event of the reorganization being perfected as proposed, without any objectionable conditions, we shall take pleasure in appointing a representative member."

Mr. Burke, General Superintendent Mississippi & Tennessee: "I heartily approve of the reorganization. The Association has already accomplished much good, inducing railway companies to adopt standard cars, but much more remains for them to do."

Mr. Fink, General Manager East Tennessee, Virginia & Georgia: "I cordially approve of the proposed amendment to the constitution of the Association."

Mr. Mulliken, General Manager Detroit, Lansing & Northern: "I have carefully read the amendment proposed to be made and cheerfully concur therein."

Mr. Hughtart, President Grand Rapids & Indiana: "We will be glad to send a representative."

Mr. Taylor, General Manager Canada Southern: "I approve of the proposed plan to secure uniformity of design in the machinery of freight cars. We shall be glad to send a representative to the convention on receipt of notice."

Mr. Broughton, General Manager Great Western Railway of Canada: "Without expressing any opinion upon the proposed plan of reorganization, I have decided to send a representative from this company to attend the annual convention of the Association in June next."

Mr. Adams, General Superintendent Fitchburg road: "I believe all the companies who have been represented in the Association have received great benefit from it. I also think the only way in which a uniform construction of cars can be brought about is through an Association of the Master Car-Builders, and whatever uniformity has thus far been secured is largely due to the members of the present Association."

"It seems to me that the proposed amendments are wise and judicious, and this company is not only willing but anxious to have the change made, and if they are will appoint a representative and do what we can to aid and assist the Association."

Mr. Jackson, President of the Maine Central: "Appreciating the value of the service rendered by this Association to the railroad interests of the country, I am glad to note that measures are being taken to increase its efficiency, and I do not see why the proposed amendments may not affect that object. It seems to me that the amendment proposed to Section 3, and enclosed in brackets,* should be adopted; as without it there might be so large a representation of the larger companies residing near the place of meeting as to control unduly the Association, but with this exception I do not perceive any objection thereto."

Mr. Felton, General Manager of the New York & New England: "I have read your circular with a great deal of interest. I certainly approve of the measure you propose, and if it is carried out, we will be glad to appoint a representative for this company."

Mr. Bliss, President Boston & Albany: "Certainly we are in favor of any scheme which will do away with the hundreds of parts of cars which are necessary to be kept on hand for repairs of equipment belonging to other roads."

"Whether the one proposed is the best plan or not I don't know, but certainly it will be an improvement on the old system, and we should be very glad to see it succeed."

Mr. Charles Paine, General Manager of the New York, West Shore & Buffalo: "I am authorized to say that this company will appoint a representative to the Association."

"It would seem to be of small consequence how much voting power may be conferred upon any representative, since his influence over the measures before the Association will depend upon his knowledge of and ability in his art, rather than upon the votes he may cast; and we shall be content whether the Association adopts one vote, or a number of votes proportioned to ownership of cars for each representative."

Mr. Fry, Superintendent of Motive Power of the same line, says: "I have carefully considered the amendment to the constitution of the Master Car-Builders' Association proposed, and I entirely approve of it, and believe that its adoption will tend to strengthen the Association, and extend its influence. I believe our company would appoint a representative, and I hope a general awakening will take place to the importance of the action taken by the Master Car-Builders' Association."

Mr. Quincey, General Manager of the Pittsburgh & Lake Erie: "I approve same, and if the plan is carried out this company will, I think, appoint a representative. I will be glad to co-operate in any measures looking to uniformity in all the parts used in the construction of cars."

Mr. Devereux, President Cleveland, Columbus, Cincinnati & Indianapolis: "Our people will co-operate in your own and the committee's efforts to make the Association what it should be in usefulness to the railroad interests of the country. Our General Manager, Mr. Thomas, has already taken the matter in hand, and has instructed Mr. Turrell, who will be our particular representative in the matter."

Mr. Thomas, General Manager of the same road: "This company is in full sympathy and accord with what it is proposed to accomplish, and I have instructed Mr. Turrell to be present at this meeting and co-operate with the other roads in bringing about the reforms and improvements which the plan proposed ought to accomplish."

Mr. Turrell, Superintendent of Machinery of the same road, says: "After careful consideration our General Manager, as well as myself, favor the amendment, believing it to be the only equitable plan of influence, viz., representation according to the number of cars owned by each railway company. We will do all in our power to obtain the results named."

Mr. Ives, General Superintendent Burlington, Cedar Rapids & Northern Railway: "I think the idea of three classes of members may be a good one. * * * I am heartily in sympathy with the movement towards a uniform style of car-building in the various ways suggested. I trust that by continually following the matter up this end may be accomplished."

Mr. Nettleton, General Manager Kansas City, Fort Scott & Gulf: "I entirely approve of the measures suggested in the circular of the committee on the reorganization of the Master Car-Builders' Association, and if adopted without objectionable features will be carried out by this company."

Mr. de Funiak, General Manager Louisville & Nashville Railroad: "I will cheerfully, at the proper time, have our Superintendent of Machinery sent to your meetings with proper instructions and sufficient discretionary power for all practical purposes. I can only say that, as I before remarked, keeping the fact in view that the proper standard size and capacity are not yet sufficiently studied, I am, so far as minor matters are concerned, heartily in favor of standard sizes and an early agreement."

Mr. Talmage, General Manager of the Missouri Pacific: "Our people think well of the amendments to the constitution of the Master Car-Builders' Association, and if the

measures are carried out without any objectionable features, we will appoint a representative and bear our proportion of the expense on an earnings basis, or such other plan as may be deemed best by the Association to promote the securing of uniformity in the building of cars."

Mr. Hoxie, General Manager St. Louis, Iron Mountain & Southern, Texas & Pacific and International & Great Northern: "This company is heartily in accord with the general views of your circular."

Mr. Jeffery, General Superintendent Illinois Central: "I approve the proposed amendment to the constitution providing for three classes of members, active, representative and associate, and defining the duties, etc., of the different classes."

Mr. Potter, Third Vice-President and General Manager Chicago, Burlington & Quincy: "I think the amendment proposed a good one, and speaking for this company, would say that I am in favor of it. The Association has done a good deal of good, I think, in the last two years, and its continuance under a better organization, and with a clear understanding will be for the interest of all roads."

Mr. Riddle, President Chicago, Rock Island & Pacific: "The undersigned heartily approves of the amendment proposed to the constitution of the Car Builders' Association and the object which the Association is striving to accomplish, that is, uniformity of car construction."

"The Chicago, Rock Island & Pacific Railway Company will gladly co-operate through its representative with this Association in furthering the objects sought to be attained, and in giving the Association the influence its importance merits."

Mr. Haupt, General Manager Northern Pacific: "The undersigned approves of the suggestions contained in your circular for the reorganization of the Master Car-Builders' Association, and will appoint Mr. Geo. W. Cushing, Superintendent of Motive Power, Machinery and Rolling Stock on the Northern Pacific Railroad, to represent this company in any meetings called for the purpose of carrying into effect the objects of the Association."

Mr. Sayre, Superintendent and Engineer of the Lehigh Valley Railroad: "I approve of the measure, and, if carried out without any objectionable conditions, we will probably appoint a representative to the Association."

Mr. Wooten, General Manager of the Philadelphia & Reading: "I have no doubt that the proposed measure, if adopted, would result advantageously to the joint interests of railroad companies, and if it be carried into effect, free from objectionable conditions, I will use my best endeavors to have this company represented in the Association."

Mr. Bowen, General Superintendent of the New York, Lake Erie & Western—the old "Erie" road—says: "I am authorized to say that this company will appoint a representative to the Association, and join in the expense thereof."

Mr. Ely, Superintendent of Motive Power, Pennsylvania Railroad:

"We believe that without such an amendment to the constitution the Association is not capable of doing the most good."

"Secondly, The amendment, as suggested, seems in a general way to cover what is required to place the Association on a better basis than at present."

"We have at this time nothing definite to suggest as a change to the amendment."

"With the proposed modification it is possible that this company would be willing to send a representative to the Association."

Mr. Wood, Superintendent of Motive Power of the Pennsylvania Company, replied in substantially the same terms as Mr. Ely.

Mr. C. Vanderbilt, First Vice-President of the New York Central & Hudson River Railroad: "It would seem to me that the company, as is suggested, should have a representative in proportion to the interests involved, and should be willing to assist their representatives to the extent of their share of the working expenses of the organization accordingly. If this will further the purposes of the organization, which are to secure greater uniformity and improvement in the construction of cars, we shall be pleased to designate a representative member as is proposed."

At a meeting of the Association of American Railroad Superintendents, held in New York on April 19, the following resolution was adopted:

"Resolved, That it is the sense of this meeting that the proposed change in the constitution of the Master Car-Builders' Association is eminently desirable and worthy the hearty approval of this Association."

Believing that the best report that the Committee could make, on the subject submitted to it, would be to quote the comments and opinions thereon by the presidents, managers and superintendents, therefore these have been given at some length. From the extracts from their letters, which have been read, it will be seen that only two are opposed to that feature which makes the voting power proportionate to the number of cars owned; two more are in doubt about it, and more than forty are in favor of the amendment. It will be noticed, too, that a large proportion of the replies are from the officers of some of the most important lines in the country. The preponderance of this testimony, it will thus be seen, is overwhelmingly in favor of the amendment."

It is perhaps proper that the Committee should make some reply to the argument that "the man whose employer owns the most cars may not be able to give the best advice." As a general proposition, it is certainly true, and it cannot be denied that very wise men are sometimes found in very humble positions. It is, however, in this case not a question of individual ability; it is one concerning the aggregate ability of whole classes. If it is stated in that way the fallacy of the reasoning will, it is believed, be made plain.

Thus, supposing there was some important and difficult question to be decided, such as the selection of a standard drawbar, and that it was necessary to refer it for decision to one of two boards of experts—one composed of the master car-builders of ten small roads, owning not more than a few dozen, or perhaps hundreds, of cars each, and the other board composed of the master car-builders of such roads as the New York Central, Lake Shore, Baltimore & Ohio, Louisville & Nashville, Rock Island, Chicago, Burlington & Quincy, Northwestern, Union Pacific, Illinois Central and Milwaukee & St. Paul roads—in such a case which of the two boards would railroad managers select to make the decision, or, if it was referred to both which decision would have the most weight in their minds or in yours, or in a court of law? It is freely admitted that there might be some wiser men in the board selected from the small roads than among those from the larger ones, but it is also true that there probably would be able men among those selected from the prominent lines than among the others; at any rate the aggregate amount of ability is almost certain to be greatest in a board composed of men from the big roads."

Now, in an association like this, it is the aggregate and not the individual vote which decides. It must be distinctly kept in mind that there is nothing in the amendment to the constitution which prevents one member from talking more than another, nor from influencing, by reasoning, by argument, or persuasion or by the presentation of facts, the ac-

tion of the Association. In that respect all are alike on common ground. It does not take away from any master car-builder the right of membership, whether he is appointed by his employer or not. If the amendment is adopted, no one now entitled to membership will be deprived of the privilege of becoming one thereafter. It in no way limits or curtails the eligibility of any one for membership."

As a matter of fact, the principle of making the votes of members proportionate to the number of cars owned has been recognized and put in force in the meetings for the revision of the "Rules Governing the Condition of and Repairs to Freight Cars for the Interchange of Traffic." If it is right there and then, why is it wrong in the other deliberations of the Association?

What man is there who would consent to give a partner in business, with a tenth interest, the same voice in its management as the former has with nine times as much at stake? If, in such a case, it were said that the man with the greatest interest may not always be able to give the best advice about the management of the business, who is there among you who would not jeer at the argument, especially if you owned nine-tenths of the business?

The principle embodied in the amendment is recognized in all stock companies. Why should a person with 20,000 shares of stock have twenty times the voting power as another with only 1,000 shares, and in a railroad association like this, which undertakes to influence, to a greater or lesser extent, the construction of the rolling stock, why should the owner of 20,000 cars have no more control than one owning 1,000?

Probably the time is not far distant when this Association will be called upon to recommend a standard brake-shoe, standard dead-blocks, draw-bars, and other parts of cars, and possibly a standard truck and freight car. When that time comes, is it probable that the companies whose cars are counted by tens of thousands, will consent to be controlled in these matters by the opinions of those whose cars are numbered by tens only?

It is, perhaps, not as generally understood as it should be, that the amendment will increase the voting power of representative members only in the adoption of standards and the appropriation of money. In the election of officers and all other matters, representatives have no more voting power than any other class of members, excepting associates—who have no vote at all. The voting power on the adoption of standards is proportioned to the interests of those represented, and the reason for giving the same vote in all matters pertaining to an appropriation of money, is that the companies are asked to contribute in proportion to the number of their cars, and it would seem rather unfair not to allow the contributor to have a voice in the disposition of his contribution somewhat in proportion thereto."

In conclusion, it may be said that this is the first effort which has been made to secure the co-operation of the railroad companies in work which this Association has undertaken to do. The correspondence which forms so large a portion of this report enables you to know the persons who have responded, and the kind of responses they have made. If they do not represent the greater part of the railroad interest of the country, they at least approximate very closely thereto. It is not safe to conclude that the silence of any from whom a response to the committee's circular might have been expected implies dissent from what it advocates, as some doubtless have failed to reply through inadvertence, and others belong to the class of people who never join in any movement until it is first made apparent whether or not it will succeed. Doubtless if the amendment is adopted many who have thus far made no sign will give the Association their cordial support. It is for you to say, after having secured the concurrence of so many railroad officers, many of them eminent for their ability, having great influence and authority, and distinguished for their intelligence and sagacity, whether it would be wise to refuse their co-operation."

The Committee also think it will be proper to indicate to railroad managers and to the members of the Association the responsibility which an appointment as a representative member will place upon the appointee. At present, members come and go to and from the meetings with little feeling of responsibility to any one. If, however, they should be appointed to represent the interests of the company by which they are employed, there would be a distinct responsibility laid upon their shoulders, which probably few would be inclined to neglect. With the appointment of representative members, therefore, a very considerable increase of interest in the meetings may be expected; and probably nothing will do so much to make those who are indifferent zealous, or infuse diligence into indolent members, as to be delegated with the responsibility of looking after the interests of their employers."

The committee recommend the adoption of the amendment as printed in their circular, after first striking out the brackets enclosing the words, "No railroad company shall have more than one representative member," and that Sections 3 and 4 of Article III, be numbered 4 and 5.

W. T. HILDREP,
LEANDER GAREY,
M. F. FORD,
C. A. SMITH,
M. N. FORNEY.

Committee.

The New York Railroad Commission Law.

TEXT OF THE NEW LAW.

The following is the text of the Railroad Commission Bill, as signed by Governor Cornell:

SECTION 1. There shall be, in and for the state of New York, a Board of Railroad Commissioners, to consist of three competent persons, who shall be appointed by the Governor, by and with the advice and consent of the Senate, one of whom shall hold office for the term of five years, one four years, and one three years. Such appointments shall be made in the ten days after the 3d day of January, 1893. One of said persons shall be selected from the party which shall cast at the next general election the greatest number of votes for Governor of the state, and one of said persons shall be selected from the party which shall cast at the next general election the next greatest number of votes for Governor of the state, one of whom shall be experienced in railroad business; and one of said persons shall be selected upon the recommendation of the presidents and executive committees, or a majority of such, of the Chamber of Commerce of the state of New York, the New York Board of Trade and Transportation, and the National Anti-Monopoly League of New York, as said organization now exists, or any two of such organizations so represented, in case of disagreement. And after such appointment first made, the Governor, by and with the advice and consent of the Senate, shall, in each year that a vacancy occurs, fill the same by appointment for the term of five years. If any vacancy happens, by resignation or otherwise, he shall, in the same manner, appoint a Commissioner for the residue of the term. Any Commissioner may be suspended from office by the Governor upon written charges preferred. The Governor shall report the fact of such suspension and the reasons therefor at the beginning of the next ensuing session of the Senate, and if a majority of such Sen-

* That no railroad company should have more than one representative member.

ate shall approve the action of the Governor, such Commissioner shall be removed from office and his term of office shall expire. If the Senate shall not be in session at the time any such vacancy shall occur or exist, the Governor shall appoint a Commissioner to fill the vacancy, subject to approval of the Senate when convened. Said Board shall have a clerk or secretary who shall be appointed by the Board, to serve during their pleasure, and whose duty shall be to keep a full and faithful record of the proceedings of said Board, and file and preserve at the general office of said Board all books, maps, documents and papers entrusted to his care and prepare for service such papers and notices as may be required of him by the Commissioners, and perform such other duties as the board may prescribe; and he shall have power, under direction of the Board, to issue subpoenas for witnesses, and to administer oaths in all cases pertaining to the duties of his office. Such Board shall also appoint a marshal, whose duty it shall be to attend at the offices and at the meetings and examination of said Board as required, and to serve notices and other papers, and perform such other duties as the Board shall prescribe. Said Commissioners and clerks shall take and subscribe the constitutional oath of office and be sworn to the due and faithful performance of the duties of their respective offices, before entering upon the discharge of the same; and no person in the employ of, or holding any official relation to, any railroad corporation, or owning stocks or bonds in any railroad corporation, or who is in any manner peculiarly interested in any firm or corporation having business relations with any railroad corporation, shall hold either of said offices, nor shall any of said Commissioners be engaged in any other business vocation.

SEC. 2. The principal office of said Board shall be at the city of Albany, in the rooms to be designated by the Capitol Commissioners, but the said Board may also establish a branch office at the city of New York, and one at the city of Buffalo, if in their judgment such branch offices, or either of them, will be necessary for the proper and convenient transaction of the business and duties of said Board; and said Board shall meet, or a quorum thereof, at least once a month during the year, at their office in the city of Albany, and a record of their proceedings shall be published in their annual report to the Legislature. Said officers shall be supplied with the necessary postage, stationery, office furniture and appliances, the expense thereof to be paid as other expenses authorized by this act.

SEC. 3. Any two of said Commissioners shall constitute a quorum for the transaction of any of the business or duties of said Board, and may hold meetings thereof at any time or place within the state. All examinations or investigations hereinafter provided for may be held and taken by and before any one of said Commissioners, if so ordered and directed by the Board; but the proceedings and decisions of said single Commissioner therein shall not be deemed final and conclusive until approved and confirmed by the Board.

SEC. 4. Said Board of Commissioners shall have power to administer oaths in all matters relating to their duties, and shall have the general supervision of all railroads and railways [so far as necessary to enable them to perform the duties and exercise the power imposed and conferred by law], and shall examine the same, and keep themselves informed as to their condition and the manner in which they are operated, with reference to the security and accommodation of the public and the compliance of the several corporations with the provisions of their charters and the laws of the state; it shall also be the duty of said Board of Railroad Commissioners to investigate the causes of any accident on a railroad resulting in loss of life or injury to person or persons, which, in their judgment, shall require investigation, and the result of such investigation shall also be reported upon in the annual report of the Commissioners to the Legislature; and it is hereby made the duty of the general superintendent or manager of such railroad in this state to inform the said Board of any such accident immediately after its occurrence. Before proceeding to make any such examination or investigation of the condition or operation of any railroad in this state, or any accident thereon, in accordance with this act, said Board shall give reasonable notice to the corporation, person, or persons conducting and managing the same of the time and place of entering upon said examination. And such Board of Railroad Commissioners shall have power, for the purposes provided for in this act, to examine the books and affairs of any railroad company or corporation, or to compel the production of copies of books and papers, subpoena witnesses, administer oaths to them, and compel their attendance and examination, as though such subpoena had issued from a court of record of this state. The fees of witnesses before such Railroad Commissioners shall be two dollars for each day's attendance, and five cents per mile traveled by the nearest practicable route in going to and returning from the place where the attendance of the witness is required. All subpoenas shall be signed by the Secretary of the Commission, and may be served by any person of full age authorized by the Commission to serve the same. Fees of witnesses shall be audited and paid by the Comptroller on the certificate of the Secretary of the Commission, which shall state the number of days which each witness attended, and the number of miles traveled. Whenever any such examination of the affairs of any railroad corporation shall take place in which such Board will require the examination of the books and affairs of such company or corporation, or the subpoenaing of witnesses who are in the employ of such company or corporation, the Board or a Commissioner thereof shall sit for such purpose in the city or town of this state where the principal business office of such railway corporation may be situated. The Board of Commissioners, however, shall have the power to require copies of books and papers, or abstracts thereof, as provided for in this section, to be sent to them to any part of this state. And the provisions of this act shall apply to all railroads and railways, and the corporations, receivers, trustees, directors, or others owning or operating the same. And also to all sleeping and drawing-room car companies or corporations and to all other associations, partnerships, companies or corporations engaged in transporting passengers or freight upon any railway as lessees or otherwise.

SEC. 5. Whenever in the judgment of the Board of Railroad Commissioners, it shall appear that any such corporation has violated any constitutional provision or law, or neglects in any respect or particular to comply with the terms of the act by which it was created, or unjustly discriminates in its charges for services, or usurps any authority not by its act of incorporation granted, or refuses to comply with the provisions of any of the laws of the state, or with any recommendation of said Board of Commissioners, they shall give notice thereof in writing to such corporation, and if the violation or neglect is continued after such notice, the Board may forthwith present the fact to the Attorney-General, who shall take such proceedings thereon as may be necessary for the protection of public interest.

SEC. 6. Whenever in the judgment of the said Board of Railroad Commissioners, after a careful personal examination of the same, it shall appear that repairs are necessary upon any railroad within this state, or that any addition to the rolling stock, or any addition to or change of the stations or station-houses, or that additional terminal facilities shall be afforded, or that any change in the rates or fare for transporting freight or passengers, or that any change in

the mode of operating the road and conducting its business is reasonable and expedient in order to promote the security, convenience and accommodation of the public, the said Board shall give notice and information in writing to the corporation of the improvements and changes which they deem to be proper, and shall give such corporation an opportunity for a full hearing thereon; and if the corporation refuses or neglects to make such repairs, improvements and changes within a reasonable time after such information and hearing, and shall not satisfy said Board that no action is required to be taken by it, the said Board shall present the facts in the case to the Attorney-General for his consideration and action; and shall also report the same facts in a special report, or in the annual report of said Board to the Legislature.

SEC. 7. Every railroad corporation shall at all times, on request, furnish the Board of Railroad Commissioners any necessary information required by them concerning the condition, management and operation of its railroad, and particularly with the rates or fare for transporting freight and passengers upon its road and other roads with which its business is connected, and such railroad corporation shall also at all times, on request, furnish to such Board of Railroad Commissioners copies of all contracts and agreements, leases, or other engagements by such corporation entered into, with any person or persons, corporation or corporations. But said Commissioners shall not be required to give publicity to such information, contracts, agreements, leases, or other engagements, if in their judgment the public interests do not require it or the welfare and prosperity of railroad corporations in this state might be thereby otherwise injuriously affected. Every officer, agent, or employee of any railroad company who shall, upon due notice, neglect or refuse to make or furnish any statement or report required by said Commissioners in their judgment necessary to the purposes of this act, or who shall wilfully hinder, delay, or obstruct the said Commissioners in the discharge of the duties imposed by this act, shall be guilty of a misdemeanor.

SEC. 8. No personal examination, request, or advice of the said Board of Railroad Commissioners, nor investigations or report made by the same, shall have the effect to impair, in any manner or degree, the legal rights, duties or obligations of any railroad corporation, or its legal liability for the consequence of its acts, or of the neglect or mismanagement of any of its agents or servants.

SEC. 9. The said Board of Railroad Commissioners shall make an annual report to the Legislature of their doings, including such statements, facts and explanations as will disclose the actual working of the system of railroad transportation in its bearing upon the business and prosperity of the state, and such suggestions as to the general railroad policy of the state, or the amendment of its laws, or as to the condition, affairs or conduct of any of the railroad corporations, as may seem to them appropriate. And the said Board of Railroad Commissioners shall be charged with the duty to recommend and draft for the Legislature such bills as will, in their judgment, protect the people's interest in and upon the railways of this state. And it shall likewise be the duty of such Commissioners to take testimony upon, and have hearing for and against, any proposed change of the law relating to any railway or railways, or proposed change of the general law in relation to railways, if requested to do so by the Legislature, or by the Committee on Railroads of Senate or Assembly, or by the Governor, or by any railroad company, or by any incorporated organization representing agricultural or commercial interests in the state, and such Commissioners shall thereupon report their conclusions, in writing, to the Legislature or to such Legislative Committee, Governor, company, or such organization from whom the request to act emanated.

SEC. 10. The said Board of Railroad Commissioners shall have power to prescribe the form of the report required to be made by railroad corporations, under section 31 of chapter 140 of the laws of 1850, entitled, "An act to authorize the formation of railroad corporations, and to regulate the same," and may from time to time make such changes and additions in such form, giving to the corporation six months' notice, before the expiration of any fiscal year, of any such changes and additions which would require any alteration in the method or form of keeping their accounts, and the report by said "Act to authorize the formation of railroad corporations, and to regulate the same," of 1850, required to be made to the State Engineer and Surveyor, shall hereafter be made to such Board of Railroad Commissioners. Until such Board of Railroad Commissioners, however, shall change or alter the form of the report, the form now prescribed by law shall be followed by the said railroad corporations. And the said Board of Railroad Commissioners shall, on or before the 15th day of September in each year, furnish a blank form of such returns. When the return received from any corporation is defective, or believed to be erroneous, the Board shall notify the corporation to amend the same within thirty days. The said Board shall prepare such tables and abstracts of all the returns as they shall deem expedient, and which shall be contained in their annual report, and their annual report shall be transmitted to the Legislature on or before the second Monday in January, each year, and which annual report shall, among other things, contain an abstract of the proceedings of the Board during the preceding year; and also drafts of bills which have been submitted by the Board to the Legislature, and the reason therefor, and such suggestions as to the workings of the laws of the state, on the subject of railways and transportation, as to the said Board may seem proper and expedient. The originals of the returns as amended, subscribed and sworn to, as now provided by law, or as hereafter to be provided by said Board of Railroad Commissioners, shall be preserved in the office of the Board.

SEC. 11. There shall be printed, in addition to the regular number prescribed by law, as a public document of the state, five hundred copies, to be bound in cloth, of the annual report of Railroad Commissioners with the returns of the corporations, for the use of the said Commissioners, and to be distributed by them to such railroad corporations and other bodies of persons interested therein, in the discretion of the said Commissioners.

SEC. 12. The annual salary of each Commissioner shall be \$8,000, and of the Chief Clerk or Secretary \$3,000, and of Marshal \$1,500, payable quarterly from the treasury of the state. The said Board shall also have power to employ such additional clerical force, not exceeding in number three persons, however, at salaries not to exceed in the aggregate the sum of \$3,000 per annum, as they may find necessary for the purpose of preparing the reports required by this act, and such other clerical duties as may be required of them by said Board. And such Board of Railroad Commissioners may have the power to employ engineers, accountants and other experts, whose services they may deem to be of temporary importance in the conducting of any investigation herein provided. In the discharge of the duties of their office they shall be transported over the several railroads in the state free of charge upon passes signed by the Secretary of State; they may employ and take with them experts or other agents whose services they may deem to be temporarily of importance, and who shall also be transported while on such duty free of charge upon passes signed by the

Secretary of State; and they shall have procured for them by the state the necessary books, maps and statistics incidentally necessary for the discharge of the duties of their office; and they shall also have reimbursed to them quarterly the expenses and disbursements they may have incurred in traveling, and for the necessary travel expenses and disbursements of their clerks, marshal and of experts; which expenses, however, shall not exceed in the aggregate \$500 a month; and a statement of such expenditures in detail shall accompany the annual report. The salaries and expenses authorized by this act shall be audited and allowed by the Comptroller, and paid in the first place by the State Treasurer, upon the order of the Comptroller, out of any unappropriated funds from time to time remaining in the Treasury. The sum of \$50,000, or so much thereof as may be necessary, is hereby appropriated to carry out the provisions of this act.

SEC. 13. The annual total expense of the said Board of Railroad Commissioners, including salaries for Commissioners, clerks and marshal and additional clerical force, printing of additional copies of report, as provided by Sec. 11 of this act, and all other expenses incident to said Board, excepting only rent of office, shall not exceed the sum of \$50,000; and such expenses shall be borne by the several corporations owning or operating railroads, according to their means, to be apportioned by the Comptroller and State Assessor, who on or before the first day of July in each year, shall assess upon each of said corporations its just proportion of said expenses, one-half in proportion to its net income for the year next preceding that in which the assessment is made, and one-half in proportion to the length of main track or tracks on the road, and such assessment shall be collected in the manner provided by law for the collection of taxes upon corporations.

SEC. 14. Said Railroad Commissioners, and either of them, shall have the right in their or his official capacity to enter and remain during business hours in the cars, offices and depots, and upon the railroads of any railroad company within the state, in the performance of official duties; but said Railroad Commissioners shall not, directly or indirectly, solicit or request from, or recommend to any railroad corporation, or any officer, attorney or agent thereof, the appointment of any person or persons to any place or position, nor shall any railroad corporation, its attorney or agent, offer any place, appointment or position or other consideration to such Commissioners or either of them, nor to any clerk or employee of said Commissioners whatever; neither shall said Commissioners, nor their secretary, clerks, agents, employees or experts accept, receive or request any pass, present, gift or gratuity of any kind from any railroad corporation; and the request or acceptance by them, or either of them, of any such place or position, pass, present, gift or other gratuity shall work a forfeiture of the office of the said Commissioner or Commissioners, secretary, clerk or clerks, agent or agents, employee or employees, expert or experts, who shall be guilty thereof; and any violation of this section or of any part thereof shall also be deemed a misdemeanor and punishable as such. And any Commissioner who shall secretly reveal any information given by him from one railroad company to any other railroad company or person shall be guilty of a misdemeanor.

SEC. 15. All acts and parts of acts inconsistent with the foregoing provisions are hereby repealed.

SEC. 16. This act shall take effect immediately.

Transportation in Congress.

In the Senate on the 16th:
Mr. Slater called up the Senate bill authorizing the Oregon Pacific Railroad Company to construct bridges across the Willamette River, Oregon. Passed.

In the House on the 16th:
A bill was passed authorizing the construction of railroad bridges across the St. Mary's, Satella, Little Satella and Crooked rivers, in Georgia and Florida.

On motion of Mr. Thompson (Iowa), the Senate amendment to House bill authorizing the Sioux City & Pacific Railroad Company to construct a bridge across the Missouri River, was agreed to.

On motion of Mr. Dunn (Ark.), the Senate bill was passed authorizing the Texas & St. Louis Railroad Company to build certain bridges in Arkansas.

The House Committee on the Judiciary, June 21, adopted a resolution in which were embodied several interrogatories concerning lands which have been granted to the Northern Pacific Railway Company. The questions are asked to determine what lands have been received by the company under the granting act, what lands have been earned, what lands have been sold, what is the value of the unearned lands, how much roadway has been completed, what has been the cost thereof, how much roadway is yet uncompleted, and what will be the probable cost thereof. It is thought by the Committee that the railway company will respond to the interrogatories within a short time and that the matter may receive some consideration by the House at this session.

Contributions.

Papers on Painting.—No. 9.

BY CHARLES L. CONDIT.

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THE DRYING OILS.

Lin (flax) seed oil freezes at 16° below zero.
Poppy seed oil freezes at 4° below zero.
Walnut seed oil freezes at 16° below zero.
Prunella (a Japanese oil).
Hempseed oil freezes at 16° below zero.
Castor oil freezes at 1° above zero.
Sunflower seed oil freezes at 1° above zero.
Grape seed oil freezes at 1° above zero.
Cotton seed oil freezes at 28° above zero.
Fish oils freeze at 32° above zero.
Some of the above are more properly half-drying oils.
Linseed oil stands first in every good quality, except for its tendency to change color.

LINSEED OIL.

Of the family of flaxworts, there are several of this country; but the common flax plant* belongs to those old

* *Linum usitatissimum*. Its flower is blue. Fig. 1 represents a flower leaf or petal; there are five to each flower, which is of a very regular and perfect kind, having five petals, five pistils, five stamens, five sepals. Figs. 2 and 3 are sepals, or cup leaves, of the flower; figs. 4 and 5 represent the seed vessel, with its tall stamens and taller pistils; fig. 6 is a stamen; fig. 7 is a seed vessel cut open, showing 10 seeds. The stamens fertilize the pistils, the pollen falling upon the top of the pistil, or probably carried there by some busy bee. Within each of the pistils (not to speak exactly) grow two seeds, as seen in fig. 7, divided by a little wall. Fig. 8 is a ripe seed vessel. Sections of the seed and the perfect seed are seen in figs. 9, 10, 11 and 12.

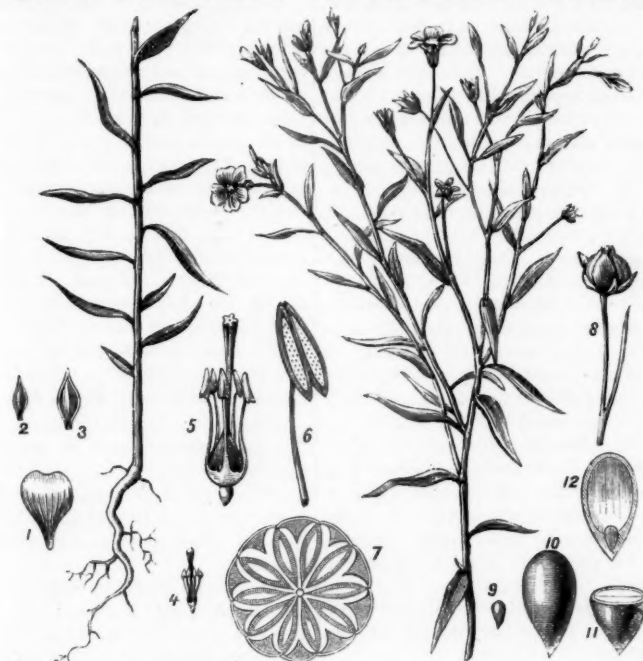
countries where men first lived; and in all historical times has been a cultivated plant.

The flax plant, like all others, is a chemical laboratory, the working-rooms being specially the leaves. In the seed is stored up the choicest results of the chemical work: (1) plant flesh (albumen), which exists in the seed as the body of a new plant; (2) sugar, starch, mucilage, which are ready preserved foods for the young plant; (3) oil, which is concentrated or stored up food, which may be (strange as it seems) changed into sugar or starch again before it is used. This oil is what we wish in painting; the flesh (albumen), and the starch and mucilage are what we do not want. In pressing the oil, however, we probably get all three.

Analysis of the Ripening of Olives.

Composition of pulp and fruit.	Percentages at different dates.					
	June 30.	July 30.	Aug. 30.	Sept. 30.	Oct. 30.	Nov. 15.
Oil and green leaf substance	1.40	5.49	29.19	62.30	67.21	68.57
Some other substances	98.00	94.00	52.00	27.00	22.00	*22.00
Water	22.00	60.00	61.00	56.00	51.00	50.00

As we have no analysis of the ripening of flaxseed, we



Flax, plant, flower, seed vessel and seed.

give that of another oil-giving seed (the olive) at various periods of its growth.

It will be seen at once that we should get more water and more substances which we do not want, and also much less oil, from green seed. It is doubtful whether either the plant-flesh or the mucilage would flow out when the seed is pressed, if it were not for the contained water.

The Oil.—The process by which the oil is made in the plant is possibly as important as it is interesting to know. After years of study it is a matter of great uncertainty, but even out of uncertainties practical light may come.

There is reason to believe that under the influence of the sun's rays the oil is made as follows:

Under
Sunlight
Carbonic acid (of the air)
becomes
Green leaf substance,
which becomes
Glucose, which becomes yellow leaf-stuff,
Starch, which becomes not drying Palmitin (oil),
Oil, which becomes drying Linolein (oil).

Everybody knows that grass is green and that leaves are full of green stuff.

Everybody knows that quantities of glucose are made from the starch of Indian corn. These bits of every-day knowledge are sufficient for some comprehension of how the oil is made in the laboratory of the plant.

The Mucilage.—We are soon acquainted with this pleasant slimy substance on putting some flaxseeds into the mouth, and perhaps we have also pleasant recollections of soothing flaxseed poultices. It has the peculiar property of soaking up water, and is therefore not desirable in the oil. The plant-flesh—the juices of the little crushed seed plant (see fig. 12 in the cut)—has the same influence on the oil which unremoved butter-milk has upon butter—namely, to make it rancid. It is doubtful how much of these substances are in the oil; the chances are even that the "foot" of well-settled oils consists of imperfect, unripe oil, mixed with the green-yellow plant-stuff from which it has been made.*

* These are woody substances, nitrogenous substances make up the remainder. The percentage of water is to the total plant; of the substances above the line to the total of dry plant-stuffs.

† Mulder found no satisfactory evidence of plant-flesh in linseed oil, although he did not deny it might be present. The stuff thrown down from the oil by sulphuric acid and acetic acid lead was apparently heavy dark oil.

I am told that more of these substances exist in American seed oils than in oils from seeds imported. The Calcutta seed is given the preference for color, both in America and in England; and, although very little is imported, some of the white-lead manufacturers use it in grinding with the lead.

The Calcutta seed, however, has probably no advantage in the amount of mucilage it contains; examination by an English chemist showed quite as much mucilage and plant-flesh in these seeds as in others.*

The difference in oils is probably in the amount of unripe oil which they contain, which is made from and mixed with color-stuffs. The amount of these foots in various oils has been estimated as follows:

Linseed oil 1 1/2 parts in 100 of oil.

Poppy-seed oil and cotton-seed oil a very little more; but all such estimates are difficult and uncertain as to what is found.

The figures are valuable as showing how troublesome may be a very small amount of imperfect matter.

The Yield of Oil.—"Heavy seed will yield most oil; and seed ripened under a hot sun, and when flax is not gathered too green, is the best. The weight of linseed varies from 48

dition a very pleasant odor and taste; exposed to the light, it bleaches completely after a short time.

Warm pressed oil is characterized by a deep color and an odor that is not pleasant. For obtaining this oil, therefore, use is always made of hydraulic presses; these give the greatest pressure. Since the cold-pressed oil always has a higher value, it is always an object to obtain the highest pressure possible, so as to obtain the greatest yield possible by the cold process.

On account of its unusual clearness, nut oil is much used for fine varnishes and for diluting colors in oil painting. Nut oil dries very slowly and contains about one-third of non-drying fats.

Hempseed Oil.—Hempseed oil, which is obtained by either cold or warm pressing of the hempseed (*cannabis sativa*), is of a clear, yellowish-green color as long as it is fresh; old oil grows darker continually until its final color is a turbid brown. It has been largely used to adulterate seed sent to England from Russia, and perhaps from India, and has, no doubt affected the quality of the oil produced. Purity of seed is a very important matter for paint and varnish oils.

Cotton-seed Oil.—Crude cotton-seed oil is a reddish brown oil which dries after a long time, but retains a "tack." Refined cotton-seed oil is of a lighter and more transparent yellow than linseed oil.

Buyers of linseed oil should be careful to observe the relative prices of cotton-seed oil and of linseed, for any considerable differences in favor of the linseed oil will greatly increase the danger of its adulteration by this oil.

Fish Oil (Whale Oil, Menhaden Oil, etc.).—Fish oils dry slowly, but, nevertheless, they will dry. A correspondent* writes: "The oil, when applied to a tin roof, sticks longer than linseed oil, not drying so hard." It is more influenced by cold, however, than linseed oil, but mixed with driers may be a valuable adulteration of linseed for tin roofs. It is not to be recommended for wood, unless as a matter of necessary economy. Whatever is placed over it at any time as a second coat will probably crack.

Menhaden oil is the "leading" fish oil. There are three grades, all much cheaper (at least one-third) than linseed oil: Crude oil; oil with foots removed; and refined oil. The oil being made from fresh fish has much less odor than fish oils formerly. Its odor is best detected on heating the oil. Linseed oil with soda has sometimes a fishy smell, the flying oil acids of both being alike in character, not in quantity.

THE SCRAP HEAP.

Dangerous Baggage.

It is not likely that the baggage-handlers employed at the railroad station in Utica, N. Y., will damage many trunks by rough usage during the present season of travel. They have had their lesson already on the threshold of vacation time. A large trunk, checked from Buffalo, was thrown off a train at Utica for transfer to another train one night this week, and was vigorously seized by a young man who was helping the baggage-master. As the young man was an undertaker's assistant, who was working not merely from love of labor or to oblige a friend, but in order to more quickly get possession of a body that was in one of the crowded baggage cars, he might have been expected to handle things with some care. However, he seems to have forgotten the rules of his own calling and was doing in Utica as the Utica baggage-smashers do, when the trunk exploded, throwing him off his feet and setting fire to the celluloid wristbands of his shirt, while the regular baggage men stood by and blessed the luck that had sent an undertaker's assistant to help them. When the ruins of the trunk were examined it was found that it had contained the outfit of a sportsman who was probably on his way to the wilds of Oneida or Herkimer County to shoot the live stock of offending farmers. There were found parts of a gun, a revolver, a powder-flask and a belt full of large cartridges. There is a very clear law against sending combustible materials from one place to another in such a careless manner; but as the people who have use for these things in their summer wanderings have shown so frequently that they do not intend to observe the law, it behooves the baggage-men employed by railroad companies to handle trunks very gingerly, for the most harmless-looking Saratoga may contain fuming powder instead of lingerie. As for the travelers on railroads, they must shun the front end of all trains, for fire or collision or some other untoward accident might do the work of the baggage-smasher, and innocent persons might thus meet injury or death.

Man-Holes.

Pullman cars are to be provided with man-holes in the roof, to be used as a means of egress in case of accident. They will also furnish a much-needed means of escape for the passengers when the porter goes in to collect his fees.—*Somerville Journal*.

The Northern Central Railroad officials had commenced examining employes of the road to ascertain whether or not they were color-blind or deaf, and thus fit or unfit for service. An official approached one of the local employes with: "Now, Blank, take the cotton out of your ears and listen! Can you hear this watch tick where I now hold it?" Blank "cocked his ear professional," and didn't hesitate a moment in assuring the official that he could "hear that watch tick as easy as to hear the blows of a trip-hammer." "Look here, Blank," said the official, assuming a more serious air, "do you know that you're an awful liar? I wasn't examining your capacity to tell the truth, but your hearing, or it might go hard with you. This watch is broken, and hasn't ticked for ten years!"—*Elmira Advertiser*.

A Western town voted a tax in aid of a new road, on condition that a station should be built in the town. And now the people gaze at a 6 by 10 shanty of henlock siding, with a floor of old ties, and compute its cost at \$8, wondering sadly where the rest of their tax has gone to.

Transfer of Signal Patents.

The National Railway Signal Co. has bought the patents, machinery and all apparatus relating to electric railroad signals formerly owned by the New England Signal Co., of Dorchester, Mass. The New England Co. goes out of the business.

* Mr. B. Hammond, Mount Kisco, N. Y. There is little doubt that this is correct.

to 52 lbs. to the imperial bushel, probably a fair average is 49 lbs., oil 7 1/2 lbs. to the gallon—perhaps 3.60 lbs. of seed to one pound of oil."—(Woolsey in Ure's Dictionary.)

The Dried Oil.—It remains only to show what the oil becomes when dry.

Linseed oil is:	
Not drying oil	20 parts
Drying oil	80 "
Total	100 parts

The dried oil was found (Mulder) to contain:

Dried oil (leather)	91 parts.
Not dry oil acids, etc.	20 "
Total	111 parts.

The oil had gained in drying 11 parts; but it had also lost the glycerine ether† (8 parts); therefore the total gain was about 20 parts. On taking to pieces the dried oil leather, Mulder found that it had apparently gained in oxygen gas sufficient to increase the weight of the oil by 21 per cent. One hundred pounds of oil, therefore, weighs 111 lbs. after it has dried, and at least 21 lbs. of this weight is oxygen gas taken up from the air.

OTHER DRYING OILS.

Prunella, a Japanese oil, has recently received some attention; but little, however, is known of it.

Poppy Oil is obtained in quite large quantities from the small black seeds of the ordinary poppy plant (*papaver somniferum*), which are so rich in oil that they are capable of yielding about half their weight of it. It is clear yellow in color, and is frequently used as a condiment on account of its mild, pleasant taste. In varnish manufacture it is used for producing only especially fine products, and it is also used by artists for diluting colors. Poppy oil dries less slowly than nut oil and less rapidly than linseed oil. It contains about one-fourth of non-drying fats. Both poppy oil and nut oil take up less oxygen in drying than linseed oil.

Mulder speaks of the use of poppy oil by artists to mix with the linseed in summer, when the latter hardens too quickly. This oil and nut oil may be made clear by mixing with water and placing in a bottle in the sunlight. The bottle must be uncorked, so that the air may act upon the oil.

Nut Oil (Walnut Oil).—This oil is obtained from the nuts of the ordinary walnut tree (*juglans regia*). The cold-pressed oil is quite different from that which is obtained after heating. The former is almost colorless, or only of a weak, yellowish-green shade, and has in the fresh con-

* Mucilage in seeds ranges from 18 to 50 per cent.; albumen, from 17 to 25 per cent.

† The amount of glycerine ether lost is necessarily an inference, but Mulder speaks of nearly its entire loss as a substantial fact.



Published Every Friday.

CONDUCTED BY

S. WRIGHT DUNNING AND M. N. FORNEY.

EDITORIAL ANNOUNCEMENTS.

Passes.—All persons connected with this paper are forbidden to ask for passes under any circumstances, and we will be thankful to have any act of the kind reported to this office.

Addresses.—Business letters should be addressed and drafts made payable to THE RAILROAD GAZETTE. Communications for the attention of the Editors should be addressed EDITOR RAILROAD GAZETTE.

Contributions.—Subscribers and others will materially assist us in making our news accurate and complete if they will send us early information of events which take place under their observation, such as changes in railroad officers, organizations and changes of companies, the letting, progress and completion of contracts for new works or important improvements of old ones, experiments in the construction of roads and machinery and in their management, particulars as to the business of railroads, and suggestions as to its improvement. Discussions of subjects pertaining to ALL DEPARTMENTS of railroad business by men practically acquainted with them are especially desired. Officers will oblige us by forwarding early copies of notices of meetings, elections, appointments, and especially annual reports, some notice of all of which will be published.

Advertisements.—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for pay, EXCEPT IN THE ADVERTISING COLUMNS. We give in our editorial columns OUR OWN opinions, and those only, and in our news columns present only such matter as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

THE REORGANIZATION OF THE MASTER CAR-BUILDER'S ASSOCIATION.

The reports of the proceedings of the convention held in Philadelphia, published this week and last, have informed the readers of the *Railroad Gazette* of the adoption of the amendment to the constitution of that Association, which was proposed last year. The report of the committee to which this amendment was referred will be found on another page. The amendment makes Article III. of the constitution now read as follows:

"SEC. 1. There shall be three classes of members, active, representative and associate members.

"SEC. 2. Any person holding the position of Superintendent of the Car Department, Master Car-Builders or Foreman of a railroad car shop, or one representative from each car manufacturing company, may become an active member by signing the constitution, or authorizing the President or Secretary to sign for him, and paying his dues for one year.

"SEC. 3. Any person having a practical knowledge of car construction may become a representative member, by receiving a written appointment from the President, General Manager or General Superintendent of any railroad company, to represent its interests in the Association. Such members shall have all the privileges of active members, and in addition thereto, on all measures pertaining to the adoption of standards for car construction, or the expenditure of money, they shall each have one more vote for each thousand cars the company which they represent owns. In the enumeration of four, six or twelve-wheeled cars, four axles to count as one car. The dues of representative members shall be in proportion to the whole number of votes they are entitled to cast. Their membership shall cease if their appointment is revoked by any officer authorized to make it, or when such a member leaves the employ of the company by which he was appointed: *Provided that no representative shall represent more than one company.*

"SEC. 4. Civil and mechanical engineers, and others whose qualifications and experience may be valuable to the Association, may become associate members when recommended by a supervisory committee. All associate members must be elected by ballot at a regular meeting, and five dissenting votes shall reject. Associate members shall be entitled to all privileges of active membership, except the privilege of voting."

Section 5 relates to the annual dues of members.

After the adoption of the amendments to the constitution, a resolution was passed instructing the committee on reorganization "to notify presidents, managers and general superintendents of the railroads of the country of the action of the Association, and invite them to send representative members to an adjourned meeting to be held on the second Tuesday of next October at Niagara; and that the committee be further instructed to report at that meeting such other amendments to the constitution as on investigation they may think are desirable."

It will thus be seen that the Association is fairly launched on a new career of usefulness, and if the

expectations of the friends of the new measure are realized, it will be able to accomplish more in the immediate future than it has ever been able to in the past. From a mere voluntary organization or club of master car-builders, who meet together with little or no feeling of responsibility to the railroad companies, it will become an association of men delegated with the duty of representing the interest of their employers. Persons thus appointed will carry with them a sense of responsibility, which is quite sure to result in a great increase of interest and a more faithful performance of their duties as members of the Association.

The adjourned meeting in October is intended to give an opportunity of incorporating the new measure into the mechanism of the Association, and to improve the organization in some other points where improvement is very much needed, and thus get whatever advantage may result from the change a year earlier than it would be possible if it was put off until the annual convention next spring.

Any one who will read the constitution by which the Association has heretofore been controlled will see that it is a very crude instrument, and that there is abundant room for improvement. The duty of indicating what changes are required has been delegated to the same committee to which the amendment just adopted was referred, and that committee, we feel authorized to say, is ready and will be glad to receive suggestions with reference to the revision of the constitution from any persons disposed to make them.

The circular which the committee issued to railroad presidents, managers and superintendents, and which was published in the *Railroad Gazette* of April 14, indicated some of the work which the Association could do. It is difficult to contemplate the field of its usefulness without feeling a sort of delirium of possibilities. It was mentioned in a previous article that there are now about 600,000 cars in this country whose value is somewhere about \$250,000,000.

It is true that the Association can exercise only a very limited control or influence over the cars now constructed, but there is what may be called a rate of mortality, and also of increase, which requires a large annual addition of new cars to replace those which go out of existence and to add to the number required by the growth of traffic.

According to Poor's Manual, the number owned by the railroad companies of the country during the past five years was as follows:

Year.	No. of cars.	Increase.
1877.....	399,524	
1878.....	408,082	2.1 per cent.
1879.....	439,109	7.6 "
1880.....	496,718	13.1 "
1881.....	559,930	12.1 "

Average rate of increase..... 8.7 per cent.

In the report of the Railroad Commissioners of Illinois for 1880 the average life of a freight car is given as eleven years. To maintain a given number of cars it would therefore be necessary to rebuild or replace one-eleventh of them, or a little over 9 per cent., every year, so that the increase and mortality would amount to 17.7 per cent. of the whole. This on the sum named would amount to \$44,250,000 of expenditure per year for new cars to replace old ones, and for increasing the aggregate number. On this the Car-Builders' Association now exercises some considerable influence, and should and may have more. If that influence should make the cars no more than 1 per cent. better than they would otherwise be, they will save \$442,500 annually. An improvement which would increase the life 5 or 10 per cent. is quite within the bounds of possible or probable accomplishment. This would represent an economy of about 2½ or 4½ millions of dollars per year. Large as these figures appear, they may be still further increased if the repair of cars is taken into account.

On the Lake Shore Railroad the average cost of repairs to cars last year was almost exactly \$56. The cost of repairs of old cars the Association can influence only to a slight extent, but the 17.7 per cent. = 106,200 new cars it is possible for the Association to improve so that the repairs will be materially lessened. At the rate of cost on the Lake Shore road the annual repairs to the new cars would be 56 × 106,200 = \$5,947,200. From 5 to 10 per cent. on this would be from \$300,000 to \$600,000 per year. This would be cumulative, too, until the improved cars replaced all the old ones, and would be increased each year by an equal additional amount during that time.

But it is often said it is impossible to get master car-builders or master mechanics to agree about the construction of cars. To this it may be replied that absolute agreement of all master car-builders about all things is no doubt impossible, yet the agreement of some or perhaps many master car-builders about some things is not impossible, nor even very difficult, if proper measures are taken to bring it about.

If the person who makes two blades of grass grow

where one grew before is a public benefactor, so is he who causes one form of journal-bearing to be used where two are now required. An advantage is gained if no more than two master car-builders will agree in the construction of the parts of cars, and the benefit will increase in proportion to the number who will act together. There are now said to be about 300 different patterns of brake-shoes in use in the country. If these were reduced one-half, or if two roads now having different patterns agree to use one, there is an advantage gained, of course, not so great as it would be if all agreed to use the same pattern; but still if we can do no more than to diminish the existing diversity it is an object worth aiming at.

The fact is, though, that while it is impossible to make car-builders or any other class of people think alike, it is not so difficult as it appears to lead them to act together, if it can be made to appear to their interest to do so, and if they are organized in such a way as to lead to rational agreement.

The organization of the car-builders and others of a similar character may be compared to a weir for catching fish; it is wide enough to admit all at one end, but gradually narrows at the other until it leads to a common passage through which all must pass. It must be kept in mind though that the organic weir of an association is a purely ideal one, and that it is as important that its integrity should not be impaired by any rent of unreasonableness as it is that a material weir should not have any loopholes for the escape of the fishes. The Association should confine sound reason and common sense within certain bounds, and lead them to common conclusions. If the action of the Association results in an effort to agree upon wise measures, it will succeed; but if it attempts to lead its members to act in conformity in matters which mature reflection, experience and sound sense indicate to be unwise, it will fail.

While it is essential, then, that the machinery of the Association should be perfected, this is but the beginning of the work. No matter how perfect the machinery, if it does not produce some useful result it will be of no service to railroad companies, and, like all other unprofitable mechanism, it will be broken up.

The question therefore which it is important to have considered at the Niagara meeting is how the new mechanism of the Association may be made most efficient. This suggests the further inquiry, what it is that requires to be done. The proceedings at the last and earlier meetings will indicate the answer. The pressing need of the railroads now is greater uniformity in the construction of cars. But uniformity might be obtained at too great a cost.* It is essential not only that cars should be of uniform construction, but that they should be of the best form of construction. It is true that it often happens that the parts of cars differ only in their proportions or in minor details, and that it is of less importance that these should be made more perfect than that they should be made alike; but in most cases the aim of the Association must be to agree upon the best form of construction. Unless the best forms are recommended by the Association, they will not be generally adopted, so that the selection of what are at least approximately the best forms is one essential in bringing about uniformity.

This may be illustrated by the action of the Association, or rather its refusal to act, in the adoption of a standard form of flange and tread for car wheels. The one proposed had been carefully designed by some of the members of the Association, and met with the approval of a number of others. It was not made clear, however, to the members generally that it was the best form, and therefore they refused to vote to recommend it. It would, in this case, no doubt, have been better if the proposed form had been recommended, rather than to have the existing diversity of forms, but it would be very much better still if some one would thoroughly investigate the subject and indicate in some certain way which is the best form. If one which is defective is adopted now, the fact is quite sure to be revealed in the future, and a better form will then be selected, which will result in its introduction, which will create more diversity. The same observations will apply to the construction of other parts of cars.

It is therefore of very great importance that the Association should secure the co-operation of the very best mechanical skill and experience. It should at once assume the duty of establishing standards for many parts of cars which are still in a chaotic condition. It is of course true that no fixed standards should be adopted until the parts have been developed into more or less perfect forms by the exercise of ingenuity, by long experience and by that process of the survival of the fittest which goes on in the railroad as well as in the natural world continually. But

* The words in italics were added to the article at the late convention as an amendment to the original amendment.

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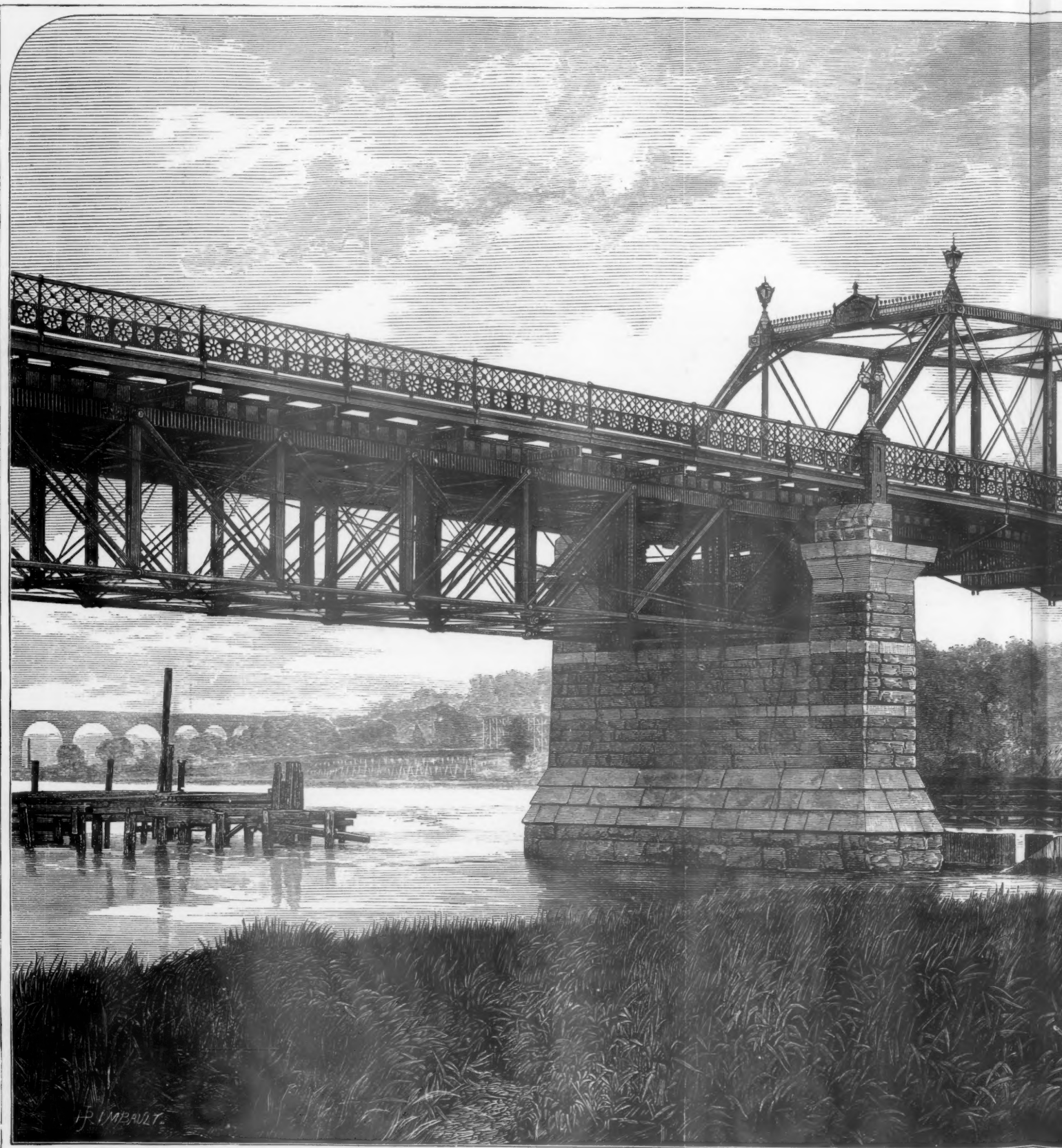
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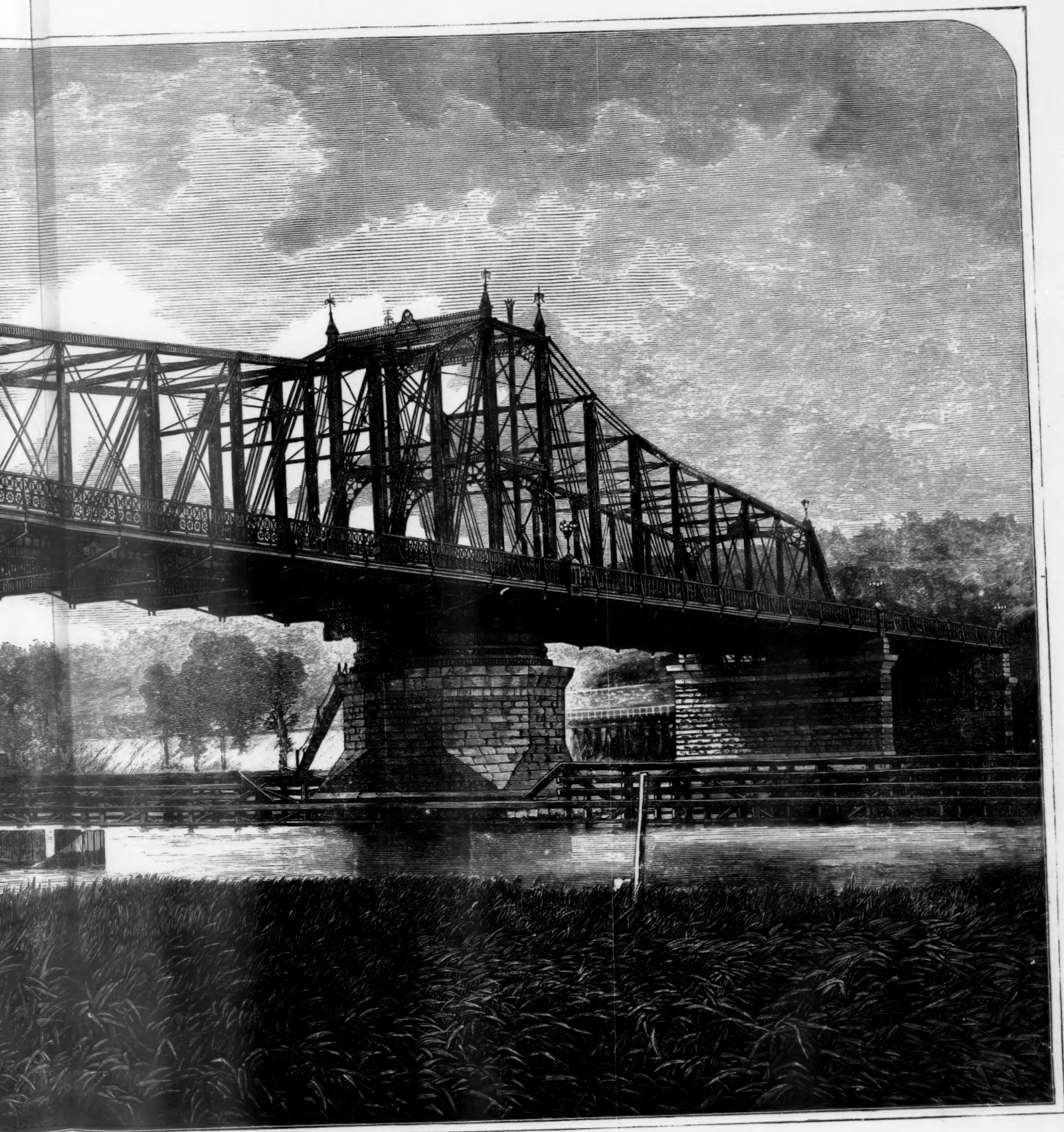
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ACCOMPANYING THE RAILROAD GAZETTE, JUNE 23, 1882.



THE HARLEM RIVER BRIDGE AT EIGHTH AVENUE, NEW

Alfred P. Boller, Chief Engineer; Clarke, Reeves & Co.



AVENUE, NEW YORK; WEST-SIDE & YONKERS RAILWAY COMPANY.

Clarke, Reeves & Co., and Smith, Ripley & Co., Contractors.



the time has apparently come when a standard freight car truck, standard draw-gear, and possibly a standard for the entire car, may be adopted with little risk of being obliged in the near future to retrace such action.

What is needed, then, in the Car-Builders' Association more than anything else is the mechanical skill to select or to evolve from the multitudes of forms of construction now in use those which are best adapted for their purpose. The subsequent action of the Association in recommending what is thus selected will be merely confirmatory of what is really the most important work to be done. The figures which have been quoted indicate that it will be to the interest of the railroads that the Association should have the assistance of the very best mechanical skill and experience that can be obtained, and that no amount of money at all likely to be required should be spared to secure the kind of ability which can recognize, select, and, if necessary, design the best standards for car construction.

THE END OF A LONG RAILROAD WAR.

Probably many readers have forgotten that the contest over passenger rates that followed the opening of the Chicago line of the Wabash in 1880 was never so settled but that the important through passenger traffic between Chicago and St. Louis, Chicago and Kansas City, and St. Louis and Kansas City has been carried at war rates ever since. The conflict began Oct. 11, 1880, and for a time raged more fiercely than any other railroad war has, we believe. The Wabash had for some months had its road completed to Chicago, but owing to the legal obstacles offered by railroad companies whose tracks it was to cross, had been unable to reach its regular city station. It then announced that it would carry passengers from a point a mile or so south of the place where this station was to be, and that its rate from Chicago to St. Louis would be one dollar less than by the older lines until it should reach its down-town station. The Chicago & Alton met this reduction, which went on until passengers were carried the 280 miles from Chicago to St. Louis for 50 cents.

But the contest was not confined to Chicago-St. Louis travel. If so the Chicago & Alton would have been the chief sufferer, for this was new business to the Wabash. But the latter had nearly half the business between St. Louis and Kansas City, and the Chicago & Alton, which has a line between these places much longer than the other two, perfectly effective for freight, but less attractive for passengers, retaliated for the destruction of the profits on its heavy Chicago-St. Louis business by ruining the Wabash's heavy St. Louis-Kansas City business. Fellow-sufferers who were not parties to the fight—that is, not particularly interested in the question of the Wabash's action at Chicago—were the Illinois Central, which had a small part of the Chicago-St. Louis travel, and the Missouri Pacific, which had perhaps half of the St. Louis-Kansas City travel.

But the effects of these reductions did not stop here, by any means. There were three old lines between Chicago and Kansas City and the other Missouri River points, which have a large traffic. The regular rate from Chicago to Kansas City was \$14.80. But when one could go from Chicago to St. Louis for a dollar or less, and from St. Louis to Kansas City for another half dollar, no one wanted to pay \$14.80 for a passage to Kansas City by the direct lines of the Burlington, the Rock Island or the Chicago & Alton. So down went the rate from Chicago to Kansas City to a dollar or so (varying from day to day), and then we had six or eight railroads involved in a contest about a point which really interested only two or three of them.

This is the common effect of a railroad war; what was peculiar in the Alton-Wabash contest was the way in which its effect in destroying profits was made to last for a year and a half after the contestants desired to put an end to the war. This was by the sale of great numbers of "unlimited tickets"—good at any time until used—at reduced rates by the two leaders in the contest. There has thus been a stock of cheap tickets in the market ever since.

This practice of selling great stocks of unlimited tickets during a railroad war is perhaps even more dangerous to passenger business than long time contracts are for freight. Both make it certain that the effects of the railroad war will last after the time when peace is agreed upon, but the unlimited tickets make the period of war rates indefinitely long, while the time contracts are limited in effect to the time for which they are made. We first hear of this practice at the time when the Chicago & Alton opened its own road to Kansas City. It then

set up the claim that it was a St. Louis as well as a Chicago road, and entitled to a large share of the traffic between St. Louis and Kansas City. Its line being somewhat circuitous (323 miles, against 277 by the Wabash), it probably did not expect to get a large part of the passenger traffic, but contended chiefly on account of the freight business. To ruin the future value of a business which it did not expect to have in the future, but which had been and would be important to its two rivals between St. Louis and Kansas City, seemed a very effective way of fighting. We believe that it was so then, and at all events the end of the conflict was that the Chicago & Alton was recognized as a St. Louis road, and was awarded a full third of the freight between St. Louis and Kansas City. The practice seemed to have worked well; there was no such weak point in the Alton's armor, which could be reached by the St. Louis, Kansas City & Northern (afterwards the Wabash) and the Missouri Pacific. But we see now how the whirligig of time brings about his revenges.

In the Wabash-Alton war, the Chicago & Alton again resorted to sales of unlimited tickets between St. Louis and Kansas City at \$5 (regular rate \$8.50), ruining for an indefinite time a business of importance to its rivals but not to it, while the Wabash sold enormous numbers of unlimited tickets between Chicago and St. Louis for \$5 (regular rate \$8.70), ruining a business of importance to its rival, but which it expected soon to be valuable to itself also. Later both sold unlimited tickets from Chicago to Kansas City for \$5 and from Kansas City to Chicago for \$7. The sales of the Wabash are said to have been on a great scale. A commission of 15 per cent. was paid for placing them, and capitalists who had no connection with passenger business are said to have bought them by the thousand and deposited them in banks as a security for loans. The report prevailed that the tickets so sold were sufficient for three years' ordinary business.

Now, when the parties to the contest had had enough of fighting and desired to restore rates, they found these unlimited tickets in the way. Should they charge \$8.70 for tickets from Chicago to St. Louis, the tickets sold by the Wabash at \$5 (less 75 cents commission in many cases) would be offered freely by the buyers at prices enough lower to command all the business. As the Wabash had to honor these tickets some time, this would not be a serious matter to it; but it would, until all the unlimited tickets were used, have substantially all the travel between Chicago and St. Louis, and neither the Chicago & Alton nor the Illinois Central would consent to this. And so with the St. Louis-Kansas City travel, the Wabash and the Missouri Pacific would not permit it to go wholly by the Chicago & Alton for several months, or a year or so, till all the unlimited tickets should be used. The result has been that for the year and a half since all parties desired to end the war, all the roads have been carrying passengers between Chicago and St. Louis and St. Louis and Kansas City on limited tickets for \$4, from Chicago to Kansas City for \$5, and from Kansas City to Chicago for \$7. The roads which have sold no unlimited tickets refused to go with out any share in the passenger business, and they could get business only at these rates. But going on in this way there never could be any end to the trouble, for there was scarcely any sale for the stocks of unlimited tickets. Such passengers as wanted stop-over privileges would pay seven or eight dollars for them, but the stock was reduced very slowly, and could not be drawn out until it was made profitable to sell them.

This was evident from the first, and it was early proposed that the unlimited tickets should be retired in some way. A proposition to make them good by all the lines the companies selling them allowing for them the price at which they were sold, was rejected by those who had sold no such tickets, as compelling them to pay the war expenses of a rival road. Doubtless there was no justice in the measure, but as the effect of its rejection has been to compel all the roads to meet the losses of the low ticket prices just the same, but for a longer period, it is questionable if it would not have been good policy to submit to the injustice and escape greater losses. At one time negotiations were made concerning the scheme for redeeming the outstanding tickets at the common expense of the different companies, which progressed so far that the Wabash and the Chicago & Alton were called upon to present a statement of the number then outstanding; but the Wabash then refused to report the number unless the other roads should agree beforehand to share the cost of redeeming them, which cost was known to the Wabash but not to them. They naturally declined.

The final settlement, as shown by the resolution of

the managers of the Southwestern Association roads which we publish elsewhere, provides that the companies issuing the tickets shall redeem them at rates a little higher than those at which they sold them, namely, \$5.50 for tickets in either direction between Chicago and St. Louis and between St. Louis and Kansas City, and \$8.50 for tickets between Chicago and Kansas City. Each company is to supply the Commissioner of the Southwestern Association with a list of the tickets outstanding, and the arrangement was to go into effect last Tuesday, but it can be ended by any company's giving ten days' notice.

The immediate occasion of this settlement seems to have been the effort of the trunk lines to escape from some difficulties in which it involved their through rates. New York-Chicago tickets being \$20 and New York-St. Louis tickets \$24.25, it was not easy to make a New York-Kansas City rate which would enable any of the lines from New York to St. Louis to get a share of the business. Adding the Chicago-Kansas City rate to the New York-Chicago rate made \$25—only 75 cents more than the New York-St. Louis rate. The co-operating railroads east of Chicago and the Mississippi were perfectly willing that their Western connections should carry for less than cost if they would not disturb the arrangements of the Eastern lines. A system of rebates was proposed which the Western roads regarded as inconvenient and undesirable, and in trying to avoid this they seem to have found occasion for the restoration of their own rates, which is ten times as important as what the Eastern roads were trying to effect. The new rates are not as high as the old ones, however, as the following comparison will show:

	Chicago and St. Louis.	Chicago and Kansas City.	Kansas City and Chicago.
Before war.....	\$8.70	\$8.50	\$14.80
Since 1880.....	4.00	4.00	5.00
Rates of June 20, 1882.	7.50	7.50	12.00

The reduction from the old rates is about one-seventh, and leaves them not far from 2½ cents per mile.

The effect of the low rates was not confined to the through business, but reached some other important traffic. The rates to Kansas City control those to other Missouri River points as far north as St. Joseph. But with the rate to St. Joseph \$5 or so, it was impossible to keep up the rates to interior Nebraska points on the basis of \$14.80 from Chicago to Council Bluffs. Then a new route to the Pacific having been established by way of Kansas City and Atchison, with the rate the same as from Omaha, the Iowa lines could not obtain full rates from Chicago to Council Bluffs on Pacific railroad tickets. The passenger could go to Kansas City for five dollars, and as it was necessary to carry him (on a through Pacific ticket) to Omaha for five dollars, half a dollar going for the bridge toll, the three Chicago-Council Bluff lines have had \$4.50 instead of \$14.80 for carrying Pacific passengers. Elsewhere rates have been more or less reduced because of these low through rates. The effect of the advance, therefore, will be more extensive than at first sight appears. The Chicago & Northwestern will gain by it, and the Illinois Central, and nearly all the roads between the two, to some extent, and several to a great extent.

Trunk Line Rates and Traffic Prospects.

An advance in trunk line rates was rumored last week as likely to take place July 1, and to profit the railroads materially. The language used indicated that the advance was expected in east-bound rates. This is not probable. The present rates are about as high as the present circumstances will permit. Should there be later a considerable increase in grain shipments, so as to force up lake rates, then an advance will become possible, and it should be made as soon as possible, as the rates are not in the proper proportion to the present high working expenses. In west-bound rates an advance was announced last Tuesday to take place July 1: there would be an actual even if there were no formal advance, because nearly all the traffic has been carried since December on contracts good till July at rates which range from 30 cents for first-class freight down to more ridiculous figures for the lower classes. The present published tariff was issued after these contracts were made and in consequence of them, and was intended as the best thing possible in the face of the contracts, and applies chiefly to shipments to interior points south of the lakes. The tariff a year ago (New York to Chicago in cents per 100 lbs.), that of Aug. 6, 1881 (which was never much observed at New York, but is the one now in force, having been restored immediately after it was agreed to settle the railroad war), and that of Jan. 16, which was intended to put the published rates on a level

with the contract rates, and the new one which takes effect July 1 next, are:

	1.	2.	3.	4.
Jan. 16.....	30	25	20	15
Aug. 6 and Jan. 23.....	45	32	26	19
Previously.....	75	60	50	40
July 1, 1882.....	60	50	50	30

Before August there were a fifth class at 30 cents and a special class at 25, which have since been included in the fourth class; but the new tariff revives the special rate of 25 cents for sugar and molasses.

The tariff previous to the railroad war had been in force more than two years, and was the lowest regular tariff ever made, the first-class rate previously having been \$1 or more. It seemed to work very satisfactorily, with the fifth class and the special rate on sugar, etc., but the great increase of traffic under the low rates of the railroad war may be a good reason for making the regular rates lower hereafter on some of the classes. When the rates were maintained, considerable shipments were diverted from the trunk lines to the canal and the more circuitous railroad lines, as to the Grand Trunk by way of New London and Montreal, to the Chesapeake & Ohio, and even to lines further south. The larger amount went to the canal boats, doubtless, and this was chiefly coarse freight, such as iron, sugar, etc., which the boats carry for a small fraction of the rail rate. The best evidence of the amount diverted from the trunk lines under the old tariff is given by the great increase in their shipments under the war rates, and especially under the contract rates of this year. In the last four months of 1881, when the rate given above as the rate of Aug. 6 is supposed to have prevailed (though cut more or less), the increase in the trunk-line shipments from New York over those of the corresponding period in 1880 was 52 per cent.; in the first four months of 1882, the increase under the still lower contract rates (represented by the published tariff of Jan. 16) was 54 per cent.; in May last it was nearly 80 per cent. The circumstances have not been such as to indicate a large increase in the trade of New York, and the conclusion is that the railroads have taken this year what otherwise would have gone by other routes or would not have been shipped at all, and we understand that the chief increase has been in goods of the lowest class, the contract rate on which is 15 cents per 100 lbs., which would not pay expenses if the cars did not have to be moved west at all events.

A rational advance in rates will doubtless give the roads, in the long run, a substantial addition to their profits, but not too much must be expected from it at first. The shippers who have the contracts have known better than any one else that their privileges would expire by the end of this month, and it is rational to suppose that they are making the best of their opportunity, and that unusual stocks will have been forwarded to the West by the first of July, and that for a month or more under the advanced rates, which are twice as great, the shipments will not only be less than they were in the previous months, but less than the average requirements of the country. This was the case after the other great railroad war, that of 1876, when also contracts were made at very low rates until the first of July, 1877. That was the date of the division of the New York city shipments among the trunk lines, and the record of shipments. We are therefore not able to make comparisons with the shipments of 1876, but the July shipments were much less than in any month afterwards, though the trainmen's strike had something to do with this. By September of that year, the shipments seem to have fully recovered to their natural course; and it is not likely that there will this year be a longer interruption of shipments. The merchandise which makes the great bulk of the westward shipments is too valuable to be provided and held long before it is required for consumption. With coal, and especially with grain, which must be held somewhere from one harvest to another, it is very different. A very low rate, which is not expected to last long, may bring forward a supply of grain sufficient for several months, if it is several months before the next harvest, as was the case generally years ago when the lake and canal rates were very much lower than the rail rates, and consequently very little grain was forwarded by rail from the Northwest.

Thus we may expect the railroads to have a somewhat lighter west-bound traffic in the last half of this year (taken as a whole) than in the first half, but much greater profits from it; though in July the traffic may be absolutely small, and even less profitable than in some of the earlier months.

The through freight west, however, is ordinarily a small proportion of the total through freight, and the gains and losses due to different rates on it therefore are much less important than those from the east-bound through and the local freight. The difference

in the two currents now, it is true, is much less than usual, because the east-bound is abnormally small and the west-bound abnormally large; yet the shipments passing the western termini of the trunk lines toward the east (not all going through, however) have even this year usually been four or five times the shipments from the seaboard cities through over the trunk lines. The difference between the contract rates of this year and the rates of a year ago applied to the west-bound traffic of 1880 amounts to about \$10,000,000 on all the roads affected, but the difference between war and peace rates on the east-bound freight would have been \$30,000,000. Under the existing (unusual) circumstances, west-bound rail shipments were largely increased by the low rates, but the east-bound shipments only moderately, and the actual gain by advancing rates will thus be less than \$10,000,000 a year, first, because the traffic at the low rate was larger than it will be at twice the rate, and, second, because the new rate is not so high as the tariff of 1880 and the first half of 1881.

The new rate is the same as was proposed last fall, when an effort was made to restore rates on west-bound freight alone without reference to other branches of traffic. This tariff was actually followed by the Pennsylvania Railroad for a time. In comparison with the rate of a year ago it is one-fifth less on the first and third classes, one-sixth less on the second class, and one-fourth less on the fourth class, which is the one which has increased most under the low rates of the railroad war. The new rates are, however, twice as great as the contract rates under which most of the freight has been carried during the first half of this year. The freight carried to the West can well afford to pay the rates of a year ago, or more; but it is probably thought the gain in tonnage which otherwise would go by canal and the outside railroads will make up for the lower rate—which is possible; though the canal will probably be able to secure a considerable amount of coarse freight, in competing against a rail rate of \$5 or \$6 a ton.

The 1st of July, however, will be memorable, like the 1st of July, 1877, as the date of the practical end of war rates, the war itself having come to an end more than five months earlier. Since February, east-bound rates have been restored, and since January passenger rates; but the contracts made at the beginning of the year have prevented the restoration of west-bound rates before July. We will then start fair, and be able to make those earnings on through traffic that the natural condition of business will permit. This is not favorable to large earnings on the trunk lines now, and will not be in July, probably, but the second half of the year as a whole seems likely to afford a fair traffic, and it is not at all necessary that profits should be as large as in 1880, which was an exceptionally favorable year, not likely to be repeated soon.

Rail Imports and Railroad Construction.

British rail exports to the United States have declined steadily since January, though they usually increase at this season, and in May last they were the smallest since January, 1881, and with that exception the smallest since 1879. Our rail imports were insignificant for several years until August, 1879. In the first seven months of that year they amounted to but 8,948 tons; in the remaining five months of 1879 they were 18,840 tons. Since 1879 the monthly exports from Great Britain to this country have been, in tons of 2,240 lbs.:

Month:	1880.	1881.	1882.
January.....	15,291	7,368	27,367
February.....	12,770	14,799	23,178
March.....	14,528	25,720	22,265
April.....	20,802	38,402	16,211
May.....	29,273	39,844	11,657
June.....	33,914	31,698
July.....	14,829	26,824
August.....	16,272	29,583
September.....	13,832	26,033
October.....	17,665	19,308
November.....	15,586	15,344
December.....	13,946	16,709
Year.....	218,518	291,632

Last year in May the exports to the United States were larger than ever before since 1873; this year, they were nearly the smallest since 1879; and last year and the year before the exports were comparatively light early in the year and became heavy in the spring and summer; while this year they were heavy in the winter and have become light since.

If we depended chiefly upon exports for our supply of rails this would be a certain indication of an approaching reduction in consumption; but our imports are now but a small part of our supply, and the works for producing steel rails in this country probably have nearly 20 per cent. greater capacity than at the same time last year. It is thus possible to keep up consumption while reducing exports.

More significant of a decreasing demand, however, is the fall in the price of domestic rails. Steel rails are now about 20 per cent. lower than at the beginning of the year. Then the enlarged works were all full of work, and since then the amount of new road on which track has been laid has been much greater than ever before, and more than twice as

great as last year. This has doubtless made the consumption so far this year unusually great, and it is this which filled the mills with orders early in the year and caused the heavy winter imports. And, in spite of the larger capacity for production now, we are inclined to think the lower prices and reduced exports at this time do indicate an approaching reduction in consumption. That twice as much new road has been completed this year as last is due largely to the more favorable season, which made it practicable to prosecute railroad construction throughout the winter, and largely also the completion of lines begun a year or more ago. Work once begun must be finished in order to make the capital already invested productive; but there has been for nearly a year less activity on the part of corporations commanding capital in starting new lines. The work of this year so far has been especially the completion of unfinished lines, and it has not been easy to get money for wholly new enterprises. Some of the companies that built most road in 1880 and 1881, and so far this year, are preparing to do comparatively little hereafter for a time—as the Wabash, the Chicago, Burlington & Quincy, the Chicago & Northwestern, the Chicago, Milwaukee & St. Paul and the Southern Pacific. The work of finishing work begun last year is not completed by any means, but it will not be surprising if the amount of construction in the last half of this year is considerably less than last year. It is true that there are projects for tens of thousands of miles of roads, and that there are projectors who stand ready to undertake it all if they can get the money from the community; but it is not very easy now for companies in good credit, with great properties to secure the capital they desire, to raise money on good terms now; and a good harvest and a prosperous summer business even are not likely to make it easy to get money for enterprises not undertaken by solid companies. If there is, we are likely to see it reflected very quickly in higher prices for rails and increased rail imports. Rails are usually ordered some months before they are used, and if there is to be an unusually large consumption in the fall it should soon begin to make itself felt.

Returning to exports of rails from Great Britain to the United States, we find that while for the first five months of this year they were but 20 per cent. less than last year, and were 8½ per cent. more than in 1880; in May, they were not one-third as great as last year and but two-fifths of those in May, 1880. The exports of iron rails to this country have fallen off especially. We are still, however, the chief consumer of British iron rails, for we took nearly twice as many as all other countries in the first five months of this year. While one-fifth of our imports were steel, other countries in the aggregate took but about 11 tons of iron to 208 of steel.

The consumption of rails in other countries has increased so that our market is no longer so important to England as it was in the two previous years. While there was a decrease of 25,500 tons in its rail exports to the United States, there was an increase of 88,000 tons in its exports to other countries. These latter for the five months were 132,677 tons in 1880, and 131,900 in 1881, increasing this year to 219,754 tons—a gain of 67 per cent. These gains are chiefly in the exports to Italy, Brazil, India and the unspecified "other countries," one of which is Mexico.

Record of New Railroad Construction.

This number of the *Railroad Gazette* contains information of the laying of track on new railroads as follows:

Atchison, Topeka & Santa Fe.—This company's *New Mexico & Arizona* line is extended south by west to Crittenden, Ariz., 40 miles.

Atlantic & Pacific.—Extended from Canon Diablo, Ariz., westward to Williams, 66 miles.

Chicago, Burlington & Kansas City.—Extended from Laclede, Mo., south by west to Cunningham, 10 miles.

Galveston, Harrisburg & San Antonio.—Track on the *El Paso Division* is laid to a point three hundred and twenty-nine miles east by south from El Paso, Tex., an extension of 39 miles.

Nevada & Oregon.—Track laid from Reno, Nev., northward 19 miles. Gauge, 3 ft.

Northeastern, of Georgia.—Extended from Clarksville, Ga., northward to Turnersville, 9 miles. Gauge, 5 ft.

Northern Pacific.—On the *Pelican Rapids Branch* track is laid from Fergus Falls, Minn., northward 11 miles.

Oregon Railway & Navigation Co.—The track on the *Baker City Branch* is extended east by south to the second crossing of the Unatilla, 29 miles.

St. Louis, Ft. Scott & Wichita.—Extended from Toronto, Kan., westward to Eureka, 19½ miles.

St. Paul, Minneapolis & Manitoba.—On the *St. Cloud & Duluth Branch* track is laid from St. Cloud, Minn., eastward 10 miles.

San Joaquin & Sierra Nevada.—Completed from Lodi, Cal., west to Woodbridge, 3 miles.

Saratoga, Mt. McGregor & Lake George.—Track laid from Saratoga Springs, N. Y., northward, 6½ miles.

Seaboard & Raleigh.—Track laid from Williamston, N. C., west 3 miles.

Southern Pacific.—Track is laid on the *Colorado River Branch* from Mohave, Cal., westward 21 miles.

Stony Clove & Catskill Mountain.—Extended from Tanersville Junction, N. Y., north by west to Hunter, 2 miles.

This is a total of 289 miles of new railroad, making 3,965 miles thus far this year, against 1,872 miles reported at the corresponding time in 1881, 1,768 miles in 1880, 732 miles in 1879, 482 miles in 1878, 595 miles in 1877, 656 miles in 1876, 836 miles in 1875, 603 miles in 1874 and 1,387 miles in 1873.

THE MAY BREADSTUFFS EXPORTS were of the value of \$10,107,415 this year, against \$19,804,618 last year, a decrease of 49 per cent., and, as prices were much higher this year, the decrease in quantities was still greater—in corn it was no less than 83 per cent., in wheat 47 per cent. and in flour 33 per cent. San Francisco exported 56 per cent. and the Pacific coast 60 per cent. of all the wheat, and New York less than half as much as San Francisco, and all the Atlantic ports together, aside from New York, only about one-tenth of the whole, and not as much as has been shipped by New York alone in a single week. The commanding position of San Francisco in the wheat exports would be remarkable were it not largely due to the unusually light movement from the Atlantic ports. Still the value of San Francisco's exports in May was nearly three times as great as last year; and yet the California crop was much larger in 1880 than in 1881. Last year, however, vessels were scarce, and at the close of the crop year about 20,000,000 bushels were left over, which was about as much as the exports had been. But the Atlantic ports export much more wheat in the shape of flour than does the Pacific coast, which exported but 18 per cent. of the total flour exports in May. Still, reducing flour to wheat, the Pacific exports were 48 per cent. of the whole. How completely New Orleans has abandoned, for the time, the exportation of grain may be seen by the fact that its exports in May last year were valued at \$1,446,324—more than the Philadelphia exports—and this year but \$27,152—not one-fiftieth as much.

Of the corn exports in May this year about one-half went from New York, one-fifth from Boston, and one-eighth from Philadelphia, and the other 17½ per cent. chiefly from lake ports (to Canada). Only about one-sixteenth went from Baltimore, which in some previous years has exported more than any other port.

The exports for the 11 months of the government fiscal year ending with May and for the five months of the calendar year then ending were:

<i>Eleven months:</i>	1881-82.	1880-81.	Decrease.	P. c.
Corn.....	42,077,848	82,400,056	40,328,208	49.0
Wheat.....	88,423,391	139,353,163	50,940,772	39.0
Flour (bu.).....	27,743,519	32,874,070	5,130,551	27.0
Other grains.....	2,024,511	4,001,087	1,976,576	43.0
Total.....	156,866,606	259,135,176	102,268,570	39.5
<i>Five months:</i>				
Corn.....	9,168,852	30,570,374	21,461,792	70.0
Wheat.....	28,463,387	48,154,378	19,690,991	40.9
Flour, bu.....	10,992,758	14,749,906	3,757,148	25.0
Other grain.....	1,018,767	1,432,361	413,594	29.5
Total.....	49,583,764	94,907,229	45,323,465	47.8

Of the enormous decrease of 102,000,000 in the eleven months, 45,000,000 was in the last five months; and in corn especially the decrease has been at a much greater rate in the latter period. And the decrease, it must be remembered, has been at a greater rate at Atlantic ports than is shown above, because there has been a large increase at the Pacific ports.

The decrease in value was $31\frac{1}{2}$ per cent. for the 11 months, against $39\frac{1}{2}$ per cent. in quantity, and $39\frac{1}{2}$ per cent. for the five months, against $47\frac{1}{2}$ per cent. in quantity. The idea that the short crop of 1881 was worth about as much as the large one of 1880 is thus not borne out by the exports.

SECURING CONNECTIONS is a favorite occupation for leading railroad men and railroad companies, according to the newspapers. If Mr. Vanderbilt goes to Chicago, some enterprising journalist finds that it is for the purpose of buying one of the biggest roads there and hitching it to the New York Central; the Chicago, Burlington & Quincy had not completed its extension to Denver when some one asserted that it had doubtless prepared to absorb the Denver & Rio Grande; the President of the Pennsylvania in the course of a tour over his company's Western lines visits Chicago and Milwaukee, and a lively imagination accounts for it by imagining a combination of the Pennsylvania and the Chicago, Milwaukee & St. Paul, as a defense against a union of the Chicago & Northwestern and the Vanderbilt roads. It is assumed that the purchase of a number of shares in a company enables the purchaser to divert its freight from one road to another. This used to be said of the "Joy" roads. The Michigan Central was supposed to have acquired a vast traffic by the interest which some of its leading stockholders had in the Chicago, Burlington & Quincy, the Hannibal & St. Joseph, and other Western roads; but the Michigan Central was never able to monopolize the Chicago, Burlington & Quincy traffic by any means, and the latter road even withdrew from the special Michigan Central freight line, (The Blue Line), while it was still kept on the Chicago & Alton and the Illinois Central, which were never supposed to have any common interest with the Michigan Central. The influence of Mr. Vanderbilt on the Chicago & Northwestern is so far seen chiefly in its entering the Red Line some years ago (and when the Vanderbilt interest was not large), and in the substitution of Wagner for Pullman sleeping cars, soon to take place. But the Northwestern does not give all its through freight to the Vanderbilt roads by any means; during one recent period of considerable length, about three-fifths of the freight which was billed over the Northwestern to trunk-line points east of Chicago went by the Vanderbilt roads; and at the same time more than two-fifths of the Milwaukee & St. Paul's through freight went by the same roads, and nearly 70 per cent. of the Chicago, Burlington & Quincy's, and 55 per cent. of the Rock Island's. The fact is that the roads west of Chicago work for themselves, and not for any special line east of Chicago which connects with them.

CHICAGO RAIL SHIPMENTS EASTWARD for the week ending June 10 were 28,514 tons, against 26,762 tons the week before, 37,600 tons in the corresponding week of 1891, and

42,504 in the corresponding week of 1880. Last year rates were somewhat demoralized at the time, but the final break to 15 cents per 100 lbs. for grain from Chicago to New York did not come till June 17. The shipments of the week this year were the largest since April, but the gain over the week of lightest receipts was not large.

Of the total shipments 8 per cent. went by the Chicago & Grand Trunk, 22.1 by the Michigan Central, 16 by the Lake Shore, 34.4 by the Fort Wayne, 10 by the Pan-handle, and 9.5 by the Baltimore & Ohio. The Grand Trunk's share is the smallest for some months; the Michigan Central's is larger than usual of late, though not equal to its average previous to this year. For the six weeks since April, including the whole time that navigation was open last year, the Chicago shipments were 157,593 tons this year, 236,437 last year, and 189,677 in 1880.

For the week ending June 17, the shipments billed from Chicago (excluding those billed through Chicago from points west of it, which on the average are more than two-fifths of the whole) were 18,350 tons, against 21,764 the week before and 31,841 tons in the corresponding week of last year. An unusually large proportion of these shipments went by the Lake Shore, but the percentages may be entirely changed when the shipments billed through Chicago are included, as they are in the pool. In the shipments last week there were 1,785 tons of flour and 10,930 of grain, against 4,176 tons of flour and 19,361 of grain last year. The decrease in these was 46 per cent.: in provisions, about 30 per cent.

PROVISION EXPORTS were only less bad than the grain exports in May, and compared with last year there was a decrease in the value of the exports amounting to 32½ per cent. in May, to 30 per cent. in the five months ending with May, and to 27½ per cent. for the seven months ending with May. There is a great decrease in butter and cheese, though the season has been much more favorable for making these than last year, when it was very late before the cows could begin to graze. For the five months ending with May the decrease in butter exports was 67 per cent., and in cheese nearly 22 per cent. In view of the short supply of fat beef for home consumption it is not strange that the exports of fresh beef were only about half as great as last year for the five months, and for May only about a quarter as great; these exports have never been more than a very small fraction of our total production. Last year in May they made up about one-ninth of the value of our total provision exports. But the decrease in hog products is a more serious matter. The decrease in these for the seven months ending with May amounted in value to more than \$18,000,000, and to 27 per cent. For this period 66.8 per cent. of the provision exports (in value) went from New York, 17.7 from Boston and 10.4 from Philadelphia, leaving but 5.1 per cent. for all other points, and about half of that went by way of Port Huron.

THE PACIFIC COAST FREIGHT seems to be looked upon as a mine of gold. It has lately been claimed for the Canadian Pacific that it will afford a route from New York to British Columbia of nearly the same length as that from New York to San Francisco, and that therefore the Canadian Pacific will be able to get a share of the freight from New York to San Francisco. The ocean passage seems to be considered but little disadvantage, though it is about as long as that from New York to Savannah. We do not doubt that some part of the freight can be made to go that way, but we question whether the income from it will do much to support the Canadian Pacific. The entire rail shipments from New York to San Francisco have never been as much as 50,000 tons in a year. Until recently they all went by one line; for a year there have been two lines; for a few months as far west as the Rio Grande there have been three lines; the Northern Pacific and the Atlantic & Pacific will be added before the Canadian Pacific can get through, and then the 50,000 tons or less will be divided among six roads, and the share of the last comer will not be the largest one, we may be sure.

THE RAPID SETTLEMENT OF THE RED RIVER VALLEY is illustrated by the taking of the public lands in the Grand Forks land district, which includes 111 townships in the valley in Minnesota and Dakota, some distance north of the Northern Pacific, and almost wholly on the lines of the St. Paul, Minneapolis & Manitoba road. This Grand Forks office was established in 1880, and of the 2,457,440 acres in its charge, only 266,262 acres remained untaken June 1 last. In 1880, 1,062,230 acres were taken, and 1,128,948 in the 17 months since. Under the laws by which Government land is taken (for homesteads, by pre-emption and by tree-planting), there must have been as many as 10,269 individual occupiers, who were nearly all heads of families. This, to be sure, gives but a small population for 3,996 square miles of land; but there is besides the population not engaged in agriculture, and it is a wonderful start to be made in little more than two years.

THE NEW YORK RAILROAD COMMISSION BILL has been signed by Governor Cornell, and so becomes a law. It will not take effect, however, until next January, when the next Governor is to appoint Commissioners. The Commission will be a sort of a standing committee of investigation like that of the Assembly which took so much testimony and attracted so much attention in 1879. It has about as much power as that committee, and will be valuable, if it all, by making intelligent investigations and reporting the results.

Harlem River Bridge.

The following account of this fine draw-bridge, a view of which accompanies this paper, is copied from *Engineering*: The West Side & Yonkers Railway, New York, is a cor.

poration that was formed for extending the elevated railway system on the west side of New York city over the Harlem River to connect with the surface roads in Westchester County, particularly the New York City & Northern Railroad (once the New York, Boston & Montreal Railroad). This connection is about a mile long, commencing at the end of Eighth avenue, the terminus of the Metropolitan Elevated line, and ending at High Bridge, the commencement of the New York City & Northern Railroad, above noted. The principal engineering feature of the work is the bridge over the Harlem River and its approaches (of which we publish a two-page engraving). In view of the contemplated improvements of the Harlem River by the general government, the restrictions thereby created involved: 1st, a rectangular crossing with the contemplated bulkhead lines; 2d, a draw-span admitting of not less than 120 ft. uninterrupted water way either side of the pivot pier; 3d, masonry to be founded with reference to a future 18 ft. channel at low water. The above restriction of location involved the approach work on a curve at either end of 450 ft. radius. The whole work is for double track and proportioned on a somewhat lighter basis than is usual for first-class American bridges, since it can never be subjected to heavy freight engines or freight traffic. The river bridge consists of a central draw-span 300 ft. long, and a deck-span of 100 ft. at either end, provided with foot-walks on either side in view of contemplated streets along the proposed bulkhead lines laid out for the river improvement. The above is all pin-connection work, and is supported on granite piers. The approach work on either side consists of riveted lattice and plate girders, the lattice work being so designed as to make the centre lines of the web members intersect in the centre lines of the chords. The riveting was more carefully performed than is usual in American work of that character, the holes all being punched small, and reamed out when parts were assembled to receive the rivets. The piers for the approach work are Belleville brownstone coped with granite. These piers were placed radially to the curves of approach, and were located and instrumentally maintained by a system of triangulation and intersecting lines. No direct measurements were made for any of the piers, and the whole has been a model of careful field work performed under the immediate direction of Mr. C. L. Cooke, Principal Assistant Engineer in charge of the work. The foundations across the river and on the New York side, are in piles, and on the Westchester side, they start from the alluvial drift. They were all obtained by means of cofferdams, excepting the pivot pier, which was founded by means of a caisson with movable sides. The mode of cofferdamming was by driving a single row of tongue and grooved 6-in. planking with a pile-driver, bracing internally as the water was lowered and excavations made. At the site of the bridge, the Harlem River bed consists of a plastic mud varying from 6 ft. to 20 ft. in depth, overlying a deposit of sand from 5 ft. to 15 ft. in thickness, under which is found a stiff clay running out to a knife edge on the Westchester side, where the alluvial drift is immediately below the sand. The 18 ft. channel involved piercing through the mud into the sand, and the above device for cofferdamming answered an admirable purpose, against a head of, at times, 22 ft. of water. Frequently the sand in the bottom gave a great deal of trouble, boiling springs breaking through and frequently carrying a stream of sand from under the toes of the sheet piling plank. Ordinarily an 8-in. pump would hold the bottom until piled, but one foundation was exceedingly troublesome, requiring a 12-in., an 8-in., a 6-in., and a 4-in. pump to hold the bottom until piled and concreted. The granite employed in the river bridge was in two colors, dark and light, the latter being used for coping, weathering and band courses, which was all bush hammered work, and the former rock faced for the body of the piers. The red sandstone approach piers are all rock faced, which contrasts handsomely with the light granite coping. The draw span is the portion of the superstructure of more special interest, it being up to date the largest double track draw in the world, and is rather novel in general design and details. It was computed on the theory of no end reaction whatever from the dead load, when closed and loaded on one or both arms, the usual assumption now made in America for continuous draw-bridges. There being an ambiguity at best, in proportioning such bridges, a single system of web arrangement was adopted in panel lengths of 17 ft. 4 in., the diagonals towards the centre being in sets of four. The truss is 20 ft. deep at ends, and 40 ft. deep at the centre. There are two trusses 26 ft. apart centres, with sidewalks cantilevered out from suspended cross girders. The turntable is a rim bearing table solely, made with extreme care, machine faced and turned in all moving parts. While the truss delivers its load to four central posts, the bearing table is so arranged as to divide on eight symmetrical points on the drum, thus distributing the whole weight over all the wheels. The machinery for operating the draw is all within the table, and consists of a double (5 in. x 7 in.) cylinder oscillating engine, with shafting and friction clutches. The free ends of the draw are supported on cams, connected with the levers of which are a system of toggle joints and levers, for raising the rails clear and free from the permanent work, the whole being operated from the central engine by line shafting beneath the floor. The mechanical attachments are such that with the first movement of the capstan wheel which connects the engine with friction clutches raises the rails, following which the cams are drawn, when the span hangs free. The second motion of the capstan throws the table shafting into gear and the bridge swings. An indicator in front of the operator always shows the exact position of the bridge and defines its centreing position. The turn-table is also provided with hand motion, and on a still day three or four men can readily open the draw.

The engine and mechanical details were supplied by Joseph Edwards & Co., of New York. The flooring system of the whole structure is heavily timbered and guarded, making it impossible for a derailed engine to endanger the structure. The time occupied in construction was one year from commencement to the passage of trains, although considerable additional time was absorbed in general finishing touches, painting, etc. The following is the schedule of spans, with weight of iron employed in same—all double track. Commencing at terminus Metropolitan Elevated Railroad.

	Lineal feet.	Lb.	
4 Lattice spans, each....	60	234,224	on curve 450 ft. radius.
1 Pin connection.....	100	166,125	river bridge.
1 ".....	300	711,758	draw span.
Turntable, gearing, locking gear, etc.....		179,472	
1 Pin connection.....	100	166,125	river bridge.
3 Lattice girder, spans, each.....	60	175,668	on curve 450 ft. radius.
1 Skew lattice span.....	80½	123,823	on curve 450 ft. radius over N. Y. C. & H. R. R. R.
Lineal feet plate girder viaduct.....	276½	197,351	on curve 450 ft. radius to tangent point on abutment.
Totals.....	1,386	1,954,546	

General Railroad News.

MEETINGS AND ANNOUNCEMENTS.

Meetings.

Meetings will be held as follows:
Scioto Valley, special meeting at the office in Columbus, O., July 14, to vote on the questions of issuing \$5,000,000 additional capital stock and \$7,500,000 bonds, and of extending the road from Columbus to Ft. Wayne.
Central, of New Jersey, special meeting to elect directors, at the office in Jersey City, June 23.

Dividends.

Dividends have been declared as follows:
Delaware, Lackawanna & Western, 2 per cent., quarterly, payable July 20. Transfer books close July 5.
Missouri Pacific, 1½ per cent., quarterly, payable July 1. Transfer books closed June 17.
St. Louis & San Francisco, 3½ per cent., semi-annual, on the first preferred stock, payable Aug. 1.
Richmond, Fredericksburg & Potomac, 2 per cent., semi-annual, on the stock and dividend obligations, payable July 1.
Fitchburg, 3 per cent., semi-annual, payable July 1. Transfer books closed June 17.
Boston & Lowell, 2 per cent., semi-annual, payable July 1. Transfer books closed June 14.
Chicago, Iowa & Nebraska (leased to Chicago & Northwestern), 4 per cent., semi-annual, payable July 1.
Cincinnati, Indianapolis, St. Louis & Chicago, 1½ per cent., quarterly, payable July 15.

Railroad Men's Mutual Benefit Association.

The annual meeting of this Association, which is composed of employees of the Pennsylvania Railroad was held in Altoona, Pa., June 13.
 President J. M. White made an address. The General Secretary presented the following statements:
 Total certificates issued, 359; receipts, \$359; expenditures, \$225.34; balance in the hands of the treasurer on expense fund, \$133.66.
 Deaths, 3; disabled, 1; assessments, \$1,484; forfeited assessments, \$68; cost of collection, 45 cents.
 Amount paid to heirs of deceased brothers \$1,171; balance of assessment money in the hands of the treasurer, May 31, 1882, \$289.
 Sixty-eight of the memberships were forfeited and four having died, leaves the present membership at 289.
 Some amendments to the constitution were considered and adopted. Officers were elected and the usual routine business transacted.

Railway Employees' Mutual Benevolent Association.

The twelfth annual convention of this Association was held in the Grand Pacific Hotel, Chicago, June 14. President James R. Wood, of the Pennsylvania road, presided. Mr. E. D. Parker acted as Secretary.
 The Committee on Credentials, Messrs. J. H. Cook and R. S. Skinner, reported that the following gentlemen were entitled to seats: J. R. Wood, Philadelphia; C. L. Rising, John Lars, John Dunn, G. W. Higginson, E. D. Parker, J. H. Cook, J. A. Cooper, Chicago; R. A. Carscadin, Trenton, Mo.; E. Reynolds, St. Louis; S. P. Hayward, G. S. Venn, Indianapolis; W. N. Doolittle, S. F. Atkins, Omaha; J. F. Russell, D. Kenyon, Toledo; W. R. McKenzie, Kansas City; Frank White, Bloomington, Ill.; Philip White, Wellsville, O.; A. C. Hawthorne, Aurora, Ill.; R. S. Skinner, Burlington, Ia.; Samuel B. Jones, Louisville.
 The Secretary and Treasurer stated that the receipts were \$23,241.22, and the disbursements for death losses \$20,907. Since 1870, \$365,488 has been paid out for death losses.
 After electing officers for the ensuing year, the convention adjourned.

Associated Railways of Virginia and the Carolinas.

A meeting of representatives of the roads constituting the Associated Railways of Virginia and the Carolinas was held in Baltimore, June 16. There were present A. S. Buford, President, and T. M. Talcott, General Manager of the Richmond & Danville; A. C. Haskell, President Charlotte, Columbia & Augusta; F. R. Scott, President Richmond & Petersburg; E. T. D. Myers, President, R. M. Sully, Superintendent Petersburg road; R. R. Bridgers, President, John F. Devine, Superintendent Wilmington & Weldon; A. F. Ravenel, President Northeastern Railroad; John M. Robinson, President Seaboard & Roanoke; A. Pope, General Passenger Agent and Sol. Haas, General Freight Agent of the Associated Lines; W. P. Clyde, of New York; William T. Walters, B. F. Newcomer and Reuben Foster, of Baltimore.
 The compact which created the Associated Lines as they exist at present was entered into last year, and was to the effect that each line in the Association should have one and the same general freight agent and one and the same general passenger agent. At the meeting it was decided that after Aug. 1 the traffic departments of the Richmond & Danville system and the Atlantic Coast Line should each be run independently, but that there should be an umpire for the two lines, to whom should be referred any traffic questions that might arise, which amounts to the same thing in a different form. It is understood that under the new arrangement Mr. Haas will be the General Freight and Passenger Agent of the Richmond & Danville, and that Mr. Pope will be the General Freight and Passenger Agent of the Coast line. The umpire has not yet been designated.

ELECTIONS AND APPOINTMENTS.

Addison & Northern Pennsylvania.—The directors of this new company are: Thomas C. Platt, W. C. Sheldon, H. P. De Graff, J. D. Fish, Roscoe Conkling, G. R. Blanchard, B. W. Spencer, H. C. McKay, H. Y. Baldwin, J. E. Jones, R. G. Taylor, W. S. Gurnee and J. H. Starin.
Baltimore & Ohio.—The board has elected Aubrey Pearre a director in place of Samuel Kirby, deceased.
Burlington & Ohio River.—At a recent meeting the following directors were chosen: W. C. Shirley, Staunton, Ill.; J. L. Plain, Carlinville, Ill.; L. B. Smith, Scottville, Ill.; H. S. Clay, George H. Valliant, Jacksonville, Ill.; G. P. Merrill, St. Louis; A. Baxter, Lima, O.; C. W. Bradley, W. H. Manning, New York.
Chester & Lenoir.—At the recent annual meeting the old officers were re-elected, as follows: President, W. Holmes Hardin; Superintendent and Treasurer, James Mason; Chief Engineer, C. S. Dwight.
Chicago, Milwaukee & St. Paul.—Mr. D. C. Quick is appointed Superintendent of Buildings and Water Supply of the Iowa Division. He was recently Road-Master of the Chicago & Pacific Division.
Chicago, St. Paul, Minneapolis & Omaha.—The following order has been issued by T. P. Gere, Superintendent of the Northern & Eastern divisions: "The office of Train-Master

is discontinued. W. E. Beale is appointed Assistant Superintendent, with headquarters at Eau Claire. C. J. Wilson is appointed Assistant Superintendent, with headquarters at St. Paul. A. W. Chapman is appointed Train-Dispatcher at Eau Claire, with authority over the line from Elroy to Eau Claire, the Neillsville Branch, and the Chippewa Falls & Northern Railway. W. H. Cruikshank is appointed Train-Dispatcher at St. Paul, with authority over the line from Eau Claire to St. Paul, the Menomonee, River Falls, Stillwater and South Stillwater branches. A. D. Gillis is appointed Train-Dispatcher of the Northern Division, with office at St. Paul."

Cleveland, Columbus, Cincinnati & Indianapolis.—Mr. J. K. Lape is appointed Master Mechanic of the Indianapolis Division, with headquarters at Brightwood, Ind., in place of James Eckford, transferred.

Detroit, Mackinac & Marquette.—At the annual meeting in Detroit, June 13, the following directors were chosen: F. E. Driggs, George Hendrie, Hugh McMillan, James McMillan, Wm. B. Moran, John S. Newberry, Francis Palms, Detroit; George I. Seney, New York. The board elected James McMillan President; Francis Palms, Vice-President; Hugh McMillan, Secretary and Treasurer.

East Georgia & Florida.—The directors of this new company are: L. M. Lawson, Charles D. Willard, Jacksonville, Fla.; Arthur D. Basnet, H. L. Ferrel, Fernandina, Fla.; Samuel Thomas, Columbus, O.; Calvin S. Brice, Lima, O.; George I. Seney, New York; Sir Edward J. Reed, London, England.

Edenton & Norfolk.—Mr. J. W. McCarrick, of Norfolk, Va., is President.

Joint Executive Committee.—Mr. T. C. Moore, who has been agent of the Indianapolis pool since its organization and is now Secretary of the Advisory Commission, has been appointed Secretary of the Chicago pool. The reports hitherto have been made by Mr. Alexander McKay, who is Assistant General Freight Agent of the Michigan Central, and of course could give little of his time to the pool work, which will be increased by the recent arrangements.

Lake View Desert.—The directors of this new company are: F. W. Rhineland, S. S. Sands, Gordon Norrie, F. E. Thompson, H. G. H. Reed, Alfred L. Cary, Albert Monro and Joseph Vilas.

Marietta & North Georgia.—Mr. F. S. Wallace is Chief Engineer, with headquarters at Jasper, Ga.

Milwaukee, Lake Shore & Western.—At the annual meeting last week the old board was re-elected as follows: James H. Mead, Sheboygan, Wis.; Charles Luling, Manitowoc, Wis.; D. Parrish, Philadelphia; Charles Dana, Wm. H. Guion, Henry B. Hammond, W. K. Hinman, Gordon Norrie, F. W. Rhineland, S. S. Sands, F. F. Thompson, Joseph Vilas, New York.

Milwaukee & Northern.—The following circular announces an appointment already noted: "Mr. C. F. Dutton is appointed General Superintendent of the Milwaukee & Northern and Wisconsin & Michigan railroads, with headquarters in Milwaukee. Communications relative to the business of the latter road will be addressed to him. From Aug. 1, next, on which date this company assumes the possession and operation of their road, all communications relating to the operation of the Milwaukee & Northern Railroad will be addressed to him."

Nevada & Oregon.—At the annual meeting, held June 7, the following directors were chosen: D. W. Balch, W. F. Berry, C. A. Bragg, R. L. Fulton, A. H. Manning, Reno, Nev.; George A. King, San Francisco; F. F. Fowler, New York.

Newfoundland.—Mr. Wm. Bond, President of this company, announces the appointment of Mr. P. E. Fairbanks as General Superintendent of Construction, with office in St. Johns, Newfoundland.

Petroleum Railway, of Pennsylvania.—This company has been organized as successor to the old Pennsylvania Petroleum Company, with the following directors: J. H. Gray, Cambridge, Pa.; James T. Blair, Greenville, Pa.; Henry C. Bloss, Francis H. Gibbs, Samuel Minor, Adelbert H. Steele, Titusville, Pa.; Frank Dunning, New York. The board elected Adelbert H. Steele President; D. W. Lockhart, Secretary.

Portland & Rochester.—Mr. J. W. Peters has been appointed Superintendent, and assumed the office from June 14. He will also continue to perform the duties of General Ticket Agent.

Queen Anne's & Kent.—At the annual meeting in Centreville, Md., recently, the following officers were chosen: President, B. T. Biggs; directors, Samuel M. Felton, Isaac Hinckley, Strickland Kneass, J. Morris Perot, Frank Thomson, Jacob Tome; Secretary and Treasurer, Robert Craven.

Railroad Men's Mutual Benefit Association.—At the annual meeting in Altoona, Pa., June 13, the following officers were chosen: President, Jacob Weidman; Vice-President, J. K. Russell, W. P. Moore, Peter McTamany; General Secretary, John M. White; Treasurer, S. Lockhart; Auditing Committee, P. G. Nash, B. Left, J. J. Stanley; directors, M. S. Utts, E. P. Pitcairn, D. O. Shaver, Thomas Molloy, D. M. Watt.

Railway Employees' Mutual Benevolent Association.—At the annual convention in Chicago, June 14, the following officers were chosen: President, C. L. Rising, Chicago; Vice-President, D. Kenyon, Toledo, O.; Secretary, C. F. Resseguie, Chicago; Treasurer, Alexander McKay, Chicago; directors for three years, W. T. Voule, J. H. Cook, John Dunn, all of Chicago; for one year, to fill vacancy, J. A. Robbins, Chicago.

Richmond, Fredericksburg & Potomac.—Dr. Francis T. Willis, of Richmond, Va., has been chosen a director in place of Isaac H. Carrington, resigned.

Rome, Watertown & Ogdensburg.—At the annual meeting recently the following directors were chosen: Talcott H. Camp, Watertown, N. Y.; Solon D. Hungerford, Adams, N. Y.; Theodore Irwin, Oswego, N. Y.; Wm. M. White, Canaseraga, N. Y.; Gardner R. Colby, John S. Farlow, Boston; John S. Barnes, Clarence S. Day, Wm. E. Dodge, Charles Parsons, Percy R. Pyne, Roswell G. Rolston, Samuel Sloan, New York. The board elected Samuel Sloan President; J. A. Lawyer, Secretary and Treasurer; Samuel Sloan, Charles Parsons, Clarence S. Day, John S. Farlow and Talcott H. Camp, Executive Committee.

St. Louis Bridge.—Mr. A. W. Dickinson has been appointed Superintendent. He is also Superintendent of Terminal Facilities in St. Louis for the Wabash and the Missouri Pacific roads.

Mr. Frank Stillwell is appointed Assistant Superintendent.

St. Paul & Duluth.—At the annual meeting, June 19, the following directors were chosen: J. J. Hill, Allen Manuel, James Smith, Jr., E. W. Winter, St. Paul, Minn.; R. B.

Langdon, Minneapolis, Minn.; S. S. Merrill, P. M. Meyers, Milwaukee, Wis.; H. H. Porter, Chicago; W. H. Rhawn, Philadelphia. The board elected James Smith, Jr., President; W. H. Rhawn, Vice-President; Philip Harris, Secretary and Treasurer.

Shenandoah Valley.—The following circular from President F. J. Kimball is dated Philadelphia, June 19:

"Maj. Henry Fink, Vice-President and General Manager of the Norfolk & Western Railroad and the East Tennessee, Virginia & Georgia Railroad, has been appointed General Manager of the Shenandoah Valley Railroad, with office at Lynchburg, Va."

"Maj. Fink will assume the duties of the position June 19, simultaneously with the completion of the Shenandoah Valley Railroad and the commencement of through business in connection with the Virginia, Tennessee & Georgia Air-Line via Roanoke."

Tariff Commission.—The President has nominated as members of the Tariff Commission Wm. H. McMahon, of New York, and Alexander R. Boteler, of Virginia, in place of Messrs. W. A. Wheeler and John S. Phelps, who declined to serve. Mr. Boteler is a director of the Shenandoah Valley Company. The members of the Commission have all been confirmed by the Senate.

Texas & Pacific.—Col. E. L. Dudley is appointed Superintendent, in place of E. S. Sands, resigned. Col. Dudley has been for some years connected with the Iron Mountain road.

Utster & Delaware.—At the annual meeting in Rondout, N. Y., June 15, the following directors were chosen: John Baird, Anthony Benson, Joseph Cornell, Thomas Cornell, J. J. Crane, A. A. Crosby, J. D. Fish, D. Kennedy, A. C. Miller, Wm. F. Romer, Ripley Ropes, Alva S. Staples, J. L. Van Deusen. The only new director is Mr. Joseph Cornell, who succeeds S. D. Coykendall, resigned.

Union Pacific.—The President has appointed the following government directors of the company: Robert H. Baker, of Wisconsin; George G. Haven, of New York; George E. Spencer, of Alabama; Watson Parrish, of Nebraska; Isaac H. Bromley, of Connecticut.

Washington & Western.—Mr. Hector McLean is Superintendent, and Mr. W. J. Wharton Chief Engineer. Offices in Alexandria, Va.

Yardmasters' Mutual Benefit Association.—At the annual convention in Baltimore last week the following officers were chosen: President, George W. Evans, Union Pacific, Denver, Col.; First Vice-President, J. C. Campbell, Pennsylvania, Derry, Pa.; Second Vice-President, John C. Reed, Cleveland, Columbus, Cincinnati & Indianapolis, Union City, Ind.; Grand Secretary and Treasurer, Joseph Sanger, Wabash, Indianapolis, Ind.; Corresponding Secretary, R. A. Lancaster, Chicago, Rock Island & Pacific, Des Moines, Ia.; Executive Committee, H. F. Fleming, Chicago; H. A. Harris, Chattanooga, Tenn.; A. D. Shaw, M. F. Geary, John W. Hicks, Indianapolis.

PERSONAL.

—Mr. M. T. Burgess, Chief Engineer of the Denver & Rio Grande Western road, has resigned that position to engage in other business.

—Mr. G. O. Clinton, Superintendent of the St. Louis bridge, has resigned in order to accept a position on the Texas & Pacific road.

—Mr. R. L. Barthlemess, Master Car-Builder of the Central Railroad of Georgia, has had a stroke of paralysis, and at last accounts was in a very critical condition.

—Mr. D. W. C. Brown has resigned his position as Superintendent of the Ohio Division of the Indiana, Bloomington & Western road, to take effect July 1. He has been on the road eight years.

—Mr. Albert J. Twigg, Chief Engineer and Superintendent of the Augusta & Knoxville road, has resigned his position, and taken the contract for grading the Savannah Railroad in South Carolina.

—It is reported that Mr. Wm. Wadley will resign his position as President of the Central Railroad Company, of Georgia, very soon. This report has been circulated before; the present rumor, however, seems to have some basis.

—Gen. George H. Chapman, a well-known lawyer of Indianapolis, died very suddenly in that city, June 16, aged 49 years. He was formerly Receiver of the LaFayette, Muncie & Bloomington road, now part of the Lake Erie & Western.

—Mr. Richard S. Fay died recently in Boston, aged 50 years. He was largely interested in iron mining in the Lake Superior Region, and was for many years a director in the Marquette, Houghton & Ontonagon Company. He was also a director of the Oregon & Transcontinental Company.

—Mr. David Thomas, the father of the anthracite iron industry, died in Catsauqua, Pa., June 20, aged 88 years. He was born in Wales and came to this country in 1837, and in the same year succeeded in making iron in a blast furnace with anthracite coal as fuel. He afterwards became founder and chief owner of the Thomas Iron Company, whose works at Catsauqua are managed by his sons.

—Ex-Gov. Wm. Dennison died in Columbus, O., June 15, aged 67 years. His career as a lawyer and public man is well known; he had held office as a member of the Ohio Legislature, Governor of Ohio, Postmaster General and Commissioner of the District of Columbia. He was largely interested in railroad property and was a director in several companies. He was a leading member of the syndicate which last year bought the Columbus & Hocking Valley and the Columbus & Toledo roads and consolidated them.

TRAFFIC AND EARNINGS.

Crop Prospects.

The Illinois Department of Agriculture reports the area of oats in the state to be about 2,071,000 acres this year, which is 149,000 acres, or nearly 8 per cent., more than last year. About three-fifths of the whole is in the northern third of the state. The condition is 2 per cent. below an average in this third of the state, which has 60 per cent. of the total acreage, just an average in the central third, which has 28 per cent. of the acreage, and 4 per cent. above an average in the southern third, which has 12 per cent. of the acreage. Altogether, the prospect is of 16½ per cent. more oats than was promised by the prospect at this time last year. The increase in acreage of oats is about one-half of the decrease in the acreage of wheat.

The Illinois Department of Agriculture also reports an important crop which is usually ignored—the h-y crop. How important it is may be judged by the fact that in Illinois in 1881 it occupied 2,384,000 acres of land, and the Depart-

ment reports that for nearly a quarter of a century the average profit per acre has been greater from this crop than from any other. It does not afford much traffic directly, however, as comparatively little hay is shipped. It is felt in cattle shipments and in the large surplus of corn which is left when there is plenty of hay and grass. The Department reports that the acreage of meadows has fallen off about 110,000 acres, or 4½ per cent. The condition is reported as 5 per cent. below an average in the northern third of the state, which has 56 per cent. of the total meadow acreage. Also 5 per cent. below in the central third, which has 30 per cent. of the acreage, and no less than 30 per cent. below in the southern third, which, however, has but 14 per cent. of the acreage. Except in this latter section the condition is better than last year and very much better in the central third of the state. On the whole, with the smaller acreage there is promise of a trifle greater crop than was promised at the same time last year. It is, however, somewhat surprising that a more favorable outlook is not found. The cool, wet spring has been favorable to grass, and a decrease in acreage was not to be expected. So far we have accounts of decreases in wheat and meadows amounting to 410,000 acres in Illinois, with an increase of 149,000 acres in oats.

Railroad Earnings.

Earnings for various periods are reported as follows:

Five months ending May 31:				
	1882.	1881.	Inc. or Dec.	P. c.
Ala. Gt. Southern.	\$308,050	\$295,117	I.	\$12,933 4.4
Atchafalaya, T. & S. F.	5,654,718	4,198,656	I.	1,455,062 34.6
Cairo & St. Louis.	143,967	173,747	D.	29,780 17.1
Ches. & Ohio.	1,129,686	1,074,987	I.	54,699 5.1
Chi. & West Mich.	602,302	482,071	I.	120,231 25.0
Gal. Har. & San A.	515,335	481,660	I.	33,675 7.0
Grand Trunk.	4,455,734	4,515,191	D.	59,457 1.3
Great Western.	2,036,641	2,223,820	D.	187,179 8.4
Hous., E. & W. Tex.	98,979	52,197	I.	46,782 89.8
K. C., Ft. S. & Gulf.	658,173	577,138	I.	81,035 14.1
Vicksburg & Merid.	191,575			
Three months ending March 31:				
St. Paul & Duluth.	\$183,329	\$123,493	I.	\$59,836 48.7
Month of March:				
St. Paul & Duluth.	\$63,538	\$49,904	I.	\$13,634 27.3
Month of May:				
Ala. Gt. Southern.	\$54,853	\$52,304	I.	\$2,549 4.9
Atchafalaya, T. & S. F.	1,153,611	1,046,125	I.	107,486 10.3
Cairo & St. Louis.	28,643	32,260	D.	3,616 11.6
Ches. & Ohio.	255,939	252,245	I.	3,694 1.4
Chi. & West Mich.	128,086	108,317	I.	19,769 18.3
Evansville & T. H.	63,371	55,748	I.	7,623 13.6
Hous., E. & W. Tex.	23,057	11,708	I.	11,349 97.0
K. C., Ft. S. & Gulf.	116,017	115,809	I.	208 0.2
Phila. & Reading.	1,703,469	1,688,802	I.	14,667 0.9
Net earnings.	769,937	779,524	D.	18,587 2.4
Vicksburg & Merid.	30,832	29,281	I.	1,551 5.3
First week in June:				
Chi. & Gt. Trk.	\$35,548	\$25,947	I.	\$9,601 36.9
Chic., Mil. & St. P.	403,000	470,664	I.	2,336 0.6
Great Western.	93,650	85,136	I.	8,514 10.0
Louisv. & Nash.	207,980	195,100	I.	12,880 6.6
Second week in June:				
Chi. & Eastern Ill.	\$31,132	\$36,223	D.	\$5,091 14.0
Chi. & Northwest.	478,140	487,455	D.	9,315 1.9
Denver & R. G.	124,082	133,824	D.	9,742 6.8
Northern Pacific.	143,300	96,140	I.	47,160 49.1

New York Canal Traffic.

For the week ending June 14 the Canal Auditor reports as follows:

	1882.	1881.	Decrease.	P. c.
Tons shipped.	165,098	192,792	27,694	30.0
Tolls.	\$16,259	\$23,634	\$7,375	31.2

The tons of leading articles shipped during the week were:

	1882.	1881.	Inc. or Dec.	P. c.
Lumber.	51,120	61,351	Dec.	10,231 16.7
Grain.	19,961	41,030	Dec.	21,069 51.4
Iron and iron ore.	18,268	25,261	Dec.	6,993 27.7
Salt.	3,260	3,307	Dec.	47 1.4
Stone, lime and hay.	12,014	8,049	Inc.	3,965 49.3
Coal.	48,514	39,741	Inc.	8,773 22.0

Considerable shipments of sugar are reported for the week this year (970 tons against 903 last year), which there have not been usually with the rail rates so low. With the expiration of the railroad contracts at the end of the month, we may expect some revival of the shipments of sugar, molasses and domestic woolsens and cottons by canal. Of the woolsens and cottons, only 93 tons were shipped in the week this year, against 875 tons last year. The total through rail shipments out of New York by the trunk lines have been as much as 40,000 tons in a single week, with rates at their lowest, but they have never averaged 20,000 tons a week with rates maintained. The shipments of sugar, iron, domestics and other coarse merchandise which the canal boats obtain when rail rates are maintained form quite an appreciable amount compared with this.

Grain Movement.

For the week ending June 10 receipts and shipments of grain of all kinds at the eight reporting Northwestern markets and receipts at the seven Atlantic ports have been, in bushels, for the past six years:

Northwestern shipments.				
Year.	Northwestern receipts.	Total.	By rail.	P. c. by rail.
1877.	2,076,791	2,166,457	664,033	30.6
1878.	2,060,004	3,576,291	778,483	21.9
1879.	4,774,399	3,002,832	2,769,245	92.2
1880.	5,754,274	6,991,823	1,237,529	24.7
1881.	7,320,207	6,178,194	1,634,114	26.4
1882.	3,110,851	3,640,570	1,414,928	38.9

Compared with corresponding weeks of previous years the receipts of the Northwestern markets this year are smaller than before since 1873 at least, and the shipments of these markets and the Atlantic receipts were the smallest since 1877; the decrease from last year is 57 per cent. in Northwestern receipts, 41 per cent. in Northwestern shipments and 56 per cent. in Atlantic receipts. While the total Northwestern shipments fell off 2,588,000 bushels, the rail shipments decreased but 219,000 bushels. Compared with previous weeks of this year the Northwestern receipts are 19 per cent. less than the week before and 30 per cent. less than two weeks before; the Northwestern shipments are 43 per cent. more than the week before and the largest since the middle of November last year; the rail shipments are the largest since the middle of April; the Atlantic receipts are a trifle less than the week before and about equal to the average for seven weeks past. Of the Northwestern shipments, 124,883 bushels went down the Mississippi, against 309,674 bushels in the corresponding week of last year.

Of the Northwestern receipts Chicago had 55.6 per cent., St. Louis 14.5, Toledo 9.4, Milwaukee 7.7, Peoria 6.1, Detroit 3.6, Cleveland 2 and Duluth 1.1 per cent. The chief changes from the previous week were a loss of 526,000 bushels at Chicago and of 126,000 at Peoria.

Of the Atlantic receipts New York had 65.5 per cent., Montreal 10.1, New Orleans 6.6, Philadelphia 6.3, Boston 6.1, Baltimore 4.9 and Portland 0.5 per cent.

New York's receipts were 296,000 bushels less than the week before, but this loss is mostly made up by gains at Boston, Montreal and New Orleans.

Of the 956,838 bushels exported from Atlantic ports dur-

ing the week, 52.3 per cent. went from New York and 37.9 from Montreal.

For the week ending June 14 the exports were 894,198 bushels of grain and 38,064 barrels of flour, against 4,039,736 bushels of grain and 87,677 barrels of flour in the corresponding week of last year.

For the week ending June 17 receipts and shipments at Chicago and Milwaukee were:

		Receipts.		Shipments.	
		1882.	1881.	1882.	1881.
Chicago.	1,854,891	3,867,000	2,307,584	3,246,466	
Milwaukee.	254,785	584,566	125,991	657,724	
Both.	2,109,676	4,451,566	2,433,575	3,904,190	

The receipts have fallen off 53 per cent. and the shipments 38 per cent.

For the same week ending June 17 receipts and shipments at Buffalo were:

		Receipts.		Shipments.	
		1882.	1881.	1882.	1881.
By rail.	311,500	479,900	580,200	909,000	
By water.	915,000	3,498,000	659,600	1,286,500	
Total.	1,226,500	3,977,900	1,239,800	2,285,500	

While the arrivals by lake fell off 2,583,000 bushels (55 per cent.), those by rail decreased but 168,400 bushels (35 per cent.), but the latter were very small both years. The decrease in shipments was 42 per cent. by rail and 49 per cent. by canal.

Receipts at four Eastern ports for the week ending June 17 were:

	Boston.	Phila.	Baltimore.	Total.
1882.	1,646,228	92,915	314,750	1,483,527
1881.	2,837,345	676,182	345,350	3,858,877
1880.	4,171,796	609,341	1,428,700	6,209,837

P. c. of total: 1882. 4.2 1.7 6.7 100.0
1881. 62.8 15.0 7.7 100.0
1880. 54.4 7.9 18.6 100.0

Boston receipts continue very small, as for a few weeks previously Philadelphia and Baltimore together had 21 per cent. of the whole this year, against 22.2 last year and 37.7 in 1880.

Coal Movement.

Coal tonnages are reported as follows for the week ending June 10:

	1882.	1881.	Inc. or Dec.	P. c.
Anthracite.	588,993	430,636	I.	158,357 36.7
Semi-bituminous.	79,845	94,000	D.	14,155 15.1
Bituminous, Penna.	63,008	45,546	I.	17,462 38.1
Coke, Penna.	52,402	48,692	I.	3,710 7.6

The anthracite trade is stronger and prices are slowly improving.

The coal tonnage of the Pennsylvania Railroad for the week ending June 10 was: Coal, 170,387; coke, 52,402; total, 222,789 tons. The total tonnage this year to June 10 was 4,884,467 tons.

Coal shipments over the Columbia & Puget Sound road and by sea from Seattle, Wash. Ter., for the five months ending May 31 were: 1882, 65,847; 1881, 57,689; increase, 8,158 tons, or 14.1 per cent. This coal all goes to San Francisco.

The Official Accountant's statement of anthracite coal shipments for May and the five months ending May 31, differing somewhat in form from the weekly reports, is as follows:

		May.		Five months.	
		1882.	1881.	1882.	1881.
Philadelphia & Reading.	541,463	534,063	2,320,08	2,339,074	
Lehigh Valley.	480,900	415,682	2,058,826	2,013,999	
Central of N. J.	332,628	299,479	1,483,527	1,471,369	
Del., Lacka. & Western.	368,248	301,661	1,501,200	1,580,497	
Del. & Hudson Canal Co.	215,043	214,865	1,094,770	1,176,340	
Pennsylvania R. R. Co.	308,898	194,922	836,584	823,674	
Pennsylvania Coal Co.	103,087	90,061	472,049	464,446	
N. Y., Lake Erie & West'n.	15,140	30,009	85,648	179,859	
Total.	2,266,097	2,086,742	9,942,812	10,049,258	

Increase for the month, 179,355 tons, or 8.6 per cent.; decrease for the five months, 106,446 tons, or 1.1 per cent. For the month all the companies show a gain except the New York, Lake Erie & Western; for the five months the Lehigh Valley, the New Jersey Central, the Pennsylvania Railroad and the Pennsylvania Coal companies show gains, the other four companies losses.

The stock of coal on hand at tidewater shipping points, May 31, 1882, was 611,441 tons; on April 30, 752,865 tons; decrease, 141,424 tons, or 18.8 per cent., during the month.

Chicago coal receipts in May were as follows:

		Anthracite.		Bituminous.	
		1882.	1881.	1882.	1881.
By rail.	15,024	17,963	170,750	155,370	
By lake.	70,194	49,284	19,909	45,968	
Total.	85,218	67,247	190,659	201,338	

The total receipts of all kinds in 1882 were 275,877 tons. In 1881 they were 268,585 tons, an increase this year of 7,292 tons, or 2.7 per cent.

The coal tonnage of the Chesapeake & Ohio road for the five months ending May 31 was:

	1882.	1881.	Increase.	P. c.
Coal.	339,249	307,560	31,689	10.3
Coke.	39,277	30,773	8,504	27.6
Total.	378,526	338,333	40,193	11.9

The total tonnage in May of this year was 80,965 tons, of which 26,474 tons were carried to Richmond and Newport News for shipment by water.

West-bound Rates.

Mr. Albert Fink, as Chairman of the Joint Executive Committee, announced June 20 that west-bound rates will be advanced July 1 to the following basis, in cents per 100 lbs., from New York to Chicago, to which we append the contract and regular rates previously:

Tariff of		Class.				
		1.	2.	3.	4.	5. Special.
July 1, 1882.	60	50	40	30	25	25
Jan. to July, 1882 (contract).	30	25	20	15	10	10
Aug. 6, 1881.	45	32	26	19	15	15
Previously.	75	60	50	40	30	25

The rates of Aug. 6, 1881, have been the nominal rates this year, but most of the shipments to the large Western cities have been at the contract rates. Under both the freights included under the fifth and special classes previously were put in the fourth class. The fifth class included scrap iron, rails and some other heavy freights for which the canal competes; the special class then and now included sugar, syrup and molasses.

Foreign Immigration in May.

The Bureau of Statistics reports that the total arrivals of immigrants in the United States in May last were 141,035, against 117,269 last year, the increase being 20 per cent. For the eleven months ending with May the arrivals were 685,634 this year, against 563,151 last, an increase of 122,483, or 21½ per cent. The number of English-speaking

people this year was 244,448, and the number of German speaking 244,707—almost exactly the same. Compared with the previous year there is scarcely any increase in the number of English-speaking immigrants (1,308), but a great increase in the Germans (58,800). There is a very large increase in the English, but only a small one in the Irish, and a great decrease in the Canadians, who last year numbered nearly as many as the English and Irish together. This year about 35½ per cent. of the whole number were Germans (from Germany and Austria), 12½ per cent. from Canada, 13½ per cent. from England, Wales and Scotland, 9½ per cent. from Ireland, and 11 per cent. were from Sweden and Norway.

Southern Railway & Steamship Association.

The Atlanta (Ga.) Constitution of June 18 says: "About a month ago the Richmond & Danville Railroad Company gave notice of an intention to withdraw from the Southern Railway & Steamship Association, and as the time has about expired it may now be said that the Richmond & Danville is out of the pool. The cause of this has not been made public, but it is presumed that the road considers itself able to 'tote its own skillet' and has made up its mind to do so. The road has instructed its agents to maintain the rates of the pool, and it is said that an understanding has been had with Mr. Powers to the effect that rates will not be cut. At the same time, there is considerable apprehension that a railroad war is imminent. * * * It is even hinted that rates are already being cut in some quarters in the shape of rebates, but there is no positive information on this subject. The belief is that the railroads are standing on a mine which at any time is likely to go off, and when it does the lightning is going to strike somewhere. It is believed that the Richmond & Danville has been preparing for this independent schedule for a long time, and it is no new idea with the management of the road. If the road cuts, the general belief is that it will be on western produce. The Richmond & Danville has an ally in the Chesapeake & Ohio road from Louisville down to Richmond. It may be that the managers of the long haul on western produce propose to cut rates against the short haul. It cannot be guessed what the real scheme is. "The Rate Committee of the pool will meet in New York on the 22d, and it may be that the whole thing will be straightened up in a satisfactory manner. Any day may start the ball rolling, or it even may not roll at all."

Chicago and Milwaukee Receipts.

For the three weeks ending June 14, receipts have been at the two places:

	1879.	1880.	1881.	1882.
Grain, bush.	11,365,680	11,065,175	14,026,012	6,244,417
Flour, bbls.	342,887	223,110	499,858	305,281
Hogs, No.	408,639	421,367	440,758	300,622

Compared with last year, there is a decrease of 55½ per cent. in grain, 27 per cent. in flour and 18 per cent. in hog receipts, and the grain receipts are also 44 per cent. less than in 1880 and 45 per cent. less than in 1879.

Receipts of grain and flour (reduced to bushels) for three successive weeks have been:

Week to	1879.	1880.	1881.	1882.
June 7.	5,321,079	4,903,019	5,571,494	2,782,225
" 14.	3,915,723	3,809,053	5,237,743	2,870,039
" 21.	3,671,869	3,356,098	5,466,136	2,235,917

Three weeks 12,908,671 12,028,170 16,275,373 7,888,181

Thus the comparison with last year is particularly unfavorable, because the June receipts were altogether unprecedented there. They were very large in 1879 and 1880, and the comparison with those years better shows the decline from a normal condition.

Chicago—St. Louis—Kansas City Passenger Rates.

The following is the agreement to restore rates made by the managers of the roads concerned at Chicago June 15, and signed by T. J. Potter, Chicago, Burlington & Quincy, John C. Gault, Wabash, C. H. Chappell, Chicago &

Pa., recently turned out a ten-wheel freight engine with 18 by 24 in. cylinders, and are to build several more of the same class.

The Baldwin Locomotive Works in Philadelphia have orders on hand for 60 engines for the Pennsylvania Railroad, 50 for the Philadelphia & Reading; 80 for the New Jersey Central and 20 for the Lehigh Valley, besides a number of smaller orders.

Car Notes.

Gardner & Co. at Carlisle, Pa., are building 750 box cars for the New York, Lake Erie & Western road.

The car works at Latrobe, Pa., are running full time, with orders on hand for several months ahead.

The Marshall Car & Foundry Co. intends to build car shops in Marshall, Tex. The company will also build a blast-furnace and probably a rolling-mill.

A fire in the car shops of Osgood Bradley at Worcester, Mass., on the morning of June 16, destroyed the painting, upholstery and finishing shops, with four unfinished passenger cars. The loss is estimated at \$33,000, on which there is a small insurance.

The National Car Co. at St. Albans, Vt., has elected officers as follows: President, Lansing Mills; Secretary and Treasurer, F. S. Stranahan; Executive Committee, L. Mills, J. R. Langdon, H. Brainerd; Auditor, Jo D. Hatch.

The shops of the New Haven Car Trimming Co. in New Haven, Conn., were destroyed by fire on the morning of June 18. The loss on buildings and stock is estimated at \$56,000, partly covered by insurance.

Bridge Notes.

The Corrugated Metal Co. in East Berlin, Conn., has the contract for an iron highway bridge over West River in New Haven.

The Philadelphia Bridge Works of Cofrode & Sayler in Pottstown, Pa., are building a bridge over the Atchafalaya River in Louisiana for the New Orleans Pacific road. It will have a draw-span of 300 ft. and two fixed spans of 250 ft. each. The draw will be worked by steam power.

Iron and Manufacturing Notes.

We understand that the Yale Lock, of Stamford, Conn., has acquired the testing-machine patents, under which the famous Watertown machine was built, and that a 50-ton machine is now building for the Altoona shops of the Pennsylvania Railroad.—*Engineering and Mining Journal.*

The rolling mill at St. Albans, Vt., is at work on steel rails for the Central Vermont, the Chicago & Grand Trunk and other roads.

The Kansas City Rolling Mill at Rosedale, Kan., in the first quarter of the current year turned out 4,200 tons of spikes, 500 tons of street and mine rails, besides a large quantity of bolts, nuts, wrought iron head-chairs, etc. During the past year the company has doubled the spike capacity, and placed in machinery for the manufacture of bolts and nuts. The capital stock of the company was recently increased from \$300,000 to \$700,000.

The Columbia Iron Works in Chicago are building a heavy double-bar shear of the Hornig patent for Pullman's Palace Car Co.

The Mount City Barbed Fence Co. in St. Louis is running its works double turn on orders. A new engine and other machinery are being built for an addition to the works.

A new rolling mill is to be built at Paulton, Pa., near Pittsburgh.

The Webb Tool Co., a new concern, is building a shop in Allegheny, Pa., for the manufacture of twist drills and special tools.

The Vulcan Iron Works in Chicago are building a large Skinner steam hammer for the Quincy Mining Co., of Hancock, Mich., and have a number of orders for heavy machinery.

The Wayne Iron & Steel Works, of Brown & Co., in Pittsburgh, are enlarging their steel plant. The new furnaces, it is claimed, will be the largest.

McCombs & Meakin, a new firm composed of J. M. McCombs and J. W. Meakin, have bought the Atlanta Machine Works in Atlanta, Ga. They will build steam engines, boilers and general machine work, and will also build freight and hand cars.

Rosena Furnace in New Castle, Pa., has gone out of blast and will be sold about July 1, in settlement of the estate of the late W. H. Brown. It is one of the largest blast furnaces in the country.

The Rail Market.

Steel rails are firm, and a slight advance in prices is reported, with an increased demand for early deliveries. Heavy rails are quoted at \$48 to \$49 per ton at mill for winter and spring deliveries, and \$50 to \$51 for summer and fall. Light rails continue active at \$52 to \$54, according to urgency of order.

Iron rails are quiet but steady at \$44.50 to \$48 per ton at mill, according to weight of rail, with no large sales reported.

Spikes, fish-plates and truck-bolts are unchanged, with fair demand.

The market for old iron rails is quiet, with very few sales. Quotations are \$26 to \$26.50 per ton in Philadelphia for tees, and \$27 to \$27.50 for double-heads. A large sale of crop-ends is reported at \$22.50 on cars.

British Rail Exports.

For the month of May and the five months then ending the exports of iron and steel rails from Great Britain to the United States and to all countries have been, for the past three years, in tons of 2,240 lbs.:

To United States:		Month of May—		Five months—	
		1880.	1881.	1880.	1881.
Iron rails.....	6,305	17,206	2,140	45,099	54,469
Steel rails.....	22,968	22,638	9,517	47,565	71,664
Total.....	29,273	39,844	11,657	92,664	126,133
To all countries:					
Iron rails.....	8,764	18,661	5,418	58,364	60,173
Steel rails.....	44,735	61,001	66,025	169,977	197,860
Total.....	53,499	79,662	71,443	228,341	258,033

The May exports to the United States were thus not one-third as great this year as last, and for the five months ending with May this company took one-fifth less than last year, though 5½ per cent. more than in 1880. The iron rail exports have become especially small this year, forming about 20 per cent. of the whole, against 43 per cent. last year and 49 per cent. in 1880.

The Iron Strike.

The past week has shown but few changes in the great strike. At outside points a few small mills have resumed work, in some cases with forces of non-union men, in others by acceding to the demands of the strikers. The strike is now virtually confined to the two centres of Pittsburgh and Cleveland.

At Cleveland the Cleveland Rolling Mill Co. continues to run its mills single turn with a force of non-union men. There has been no further rioting, although an ugly disposi-

tion is reported among the strikers, and a strong police force is at the mills.

In Pittsburgh only two mills are at work with non-union men. Here the utmost quiet prevails and the strikers have been very careful to preserve order. On June 17 there was an imposing demonstration, many thousand men from the city and surrounding places joining in procession in regular order with appropriate banners and paraphernalia. This passed off with great quietness and remarkable order, although the city was crowded, and good feeling seems to prevail to an extraordinary degree. Both parties seem determined to hold out, and yet there is, apparently, an entire absence of ill feeling between them, which is unusual.

Buying Off Opposition.

At the special meeting of the New York & New England stockholders last week, the chief opponent of the purchase of the state stock was bought off. The Boston *Advertiser* reports as follows:

"John A. Nowell spoke in opposition, arguing that it was giving the state a preference in securing its claims, which favor other stockholders were not given, inasmuch as it guarantees the payment of 50 cents on \$1 within 20 years to one-quarter of the creditors, and left three quarters of the creditors with no security. This proposition is a gratuity to the state of Massachusetts to induce it to allow us to issue \$5,000,000 of bonds. He thought that the road had better go to some other source and hire money to carry on its business."

Matthew Bolles said that he thought Mr. Nowell argued from mistaken premises. The road owes nothing to the Commonwealth of Massachusetts, which is a shareholder in common with the rest of us, and which has offered to sell to us its stock at 50 cents on the dollar, on 20 years' credit, and as a business man he thought that that was a most excellent investment. He was delighted that the state was willing to sell to them, and sorry that it was willing to sell for itself. He advocated the acceptance of the act, and guessed that within two years this stock would be worth \$90 a share. If the corporation does not buy it, it is very safe to say that somebody else will.

Mr. Nowell said that he hoped that he might be mistaken in his judgment, but that, under the circumstances, Mr. Bolles might have all of his stock at the same rate as that proposed by the state. Half a dozen gentlemen immediately offered to take it, Colonel Cannon being particularly urgent. Mr. Nowell immediately took his stock certificates out of his pocket and handed them to Colonel Cannon, who took it with the remark: "Now you're not a stockholder; you can't talk any more."

Testing an Electric Signal.

The New York, Lake Erie & Western Company is testing a newly patented electric signal at the east-end junction of the Bergen County Short-Cut with the main line. A magnet is set alongside the track or the Short-Cut, 1,500 ft. from the junction, which, every time a car wheel passes over it, rings a telephone bell at the junction. This warns the watchman posted there that there is a train coming on the Short-Cut which is to go on the main line, and he sets the signals and switches accordingly. There is another arrangement which causes an automatic red danger signal to appear on the Short-Cut whenever there is a train on the main line approaching the junction from either direction. The signal has been found very useful there, as there is a short curve and a hill which cut off the view between the main line and the Short-Cut beyond, a distance of a few rods on the latter. Thus far it has worked like a charm.—*Middletown (N. Y.) Press.*

Perilous Ride.

The recent trip of Wm. H. Vanderbilt and associates in a special train, a few days ago, will be forever remembered by the railroad magnates. Ten miles east of Rome the train was running at nearly the rate of a mile a minute. Severe jolts were felt by the passengers and continuing until near Oneida, when, becoming alarmed, the engineer was rung up, and then it was discovered that the brake beam on the tender had broken and dropped on the ground, which it had ploughed up for nearly ten miles. Mr. Vanderbilt was very much sobered by the narrowness of their escape.—*Rochester (N. Y.) Post-Express, June 19.*

Electric Railroad in Philadelphia.

The proposed electric railroad in Fairmount Park, Philadelphia, is thus described by Gen. J. F. Hartranft, who is President of the company asking leave to build it:

"The road will start at a point on the west bank of the Schuylkill River directly opposite the boat-houses, at which point a wharf and ornamental station would be erected. The road runs nearly parallel to the river bank to near the Thirty-fifth street entrance, at which point a station would be placed for the accommodation of passengers coming to that entrance of the Park."

"From this place the road passes almost in a straight line along the edge of the swamp between the Zoological Garden and the river to Girard avenue bridge, and at this place there would be a station for the accommodation of passengers to and from Broad and Market streets via Pennsylvania Railroad. It then passes under Girard avenue bridge and follows close to the river bank till Sweet Briar is reached. At this place there would be a station. From thence it still follows the line of the river, displaying glimpses of scenery between the Junction Railroad and the tow-path till opposite the outlet of Sweet Briar Vale. From thence it passes on an ascending grade, crosses the old river road and the Junction Railroad above grade, and thus reaches the hillside below the east end of Horticultural Hall. At this place would be located a small ornamental station and shelter, and on the low ground immediately west of the Junction Railroad would be placed a substantial structure for the accommodation of the dynamic electric machines and the necessary plant for generating the power, which latter is to be transmitted from thence to the rails of the track. From this place the road, by gentle curves, passes around the valley to the north side of Horticultural Hall, and from thence, skirting the east border of the Agricultural grounds, it passes the Belmont walk and glen. This point is within a hundred yards of Belmont Mansion, and a station would be placed here. Thence the road winds around the hillside and passes the attractive picnic grounds at Ridgeland. At this place another station would be located. Thence, following almost the natural surface of the ground, it passes by the picnic grounds called the Seven Springs. Thence crossing eastwardly, it passes through beautiful stretches of meadow and woodland, displaying views of the landscape at every turn; passes by Greenland, still following the hillside, crosses the ford road, and, winding around the hill, attains Mt. Prospect, or Chamouni, at the extreme northern end of the park. Throughout its entire length, as nearly as possible, the road is located on the surface of the ground, following very nearly the contours of the surface. The grades throughout are easy and practicable, the heaviest being about 1.8 feet in a hundred, which is necessary for a short distance, in order to attain sufficient elevation to cross the Junction Railway above grade. This line is so located that it develops almost the entire West Park from Landsdowne to Chamouni, passing through all

the attractive picnic grounds, and the changing views as seen from the cars would be most beautiful. It crosses no finished drive, and is almost completely hidden from the road, except south from Girard avenue bridge. The only roads that it crosses are the old river road, above grade, and the Ford road (above grade if thought desirable). Its length is 3.59 miles, gauge 3 ft. 6 in. Light open cars would be used, and the rolling stock and equipment in every respect would be suitable for the purpose, and as ornamental as practicable.

"The two tracks make an electric circuit, and we propose to come back on the same tracks. At the central station we would have a turnout. The speed is expected to be about 10 miles an hour."

OLD AND NEW ROADS.

Addison & Northern Pennsylvania.—This company has filed articles of incorporation for a railroad from Addison, N. Y., on the Erie, 11 miles west of Corning, south to the Pennsylvania line, about 12 miles. It is apparently intended to be part of a branch from the Erie into the Tioga coal field.

Atchison, Topeka & Santa Fe.—This company's New Mexico & Arizona line, which starts from Benson, Ariz., on the Southern Pacific, 173 miles west of Deming, and is to run to Los Nogales on the Mexican frontier, is now completed to Crittenden, 58 miles from Benson, 40 miles of track having been laid this year. This line is the Arizona end of the Sonora Railroad, and less than 100 miles of track remain to be laid to complete the road from Benson to Guaymas on the Gulf of California. The connection between this road and the company's line to El Paso is made by the 173 miles of the Southern Pacific from Deming to Benson, for the use of which a contract was made some time ago.

Atlantic & Pacific.—Since the great bridge over the Cañon Diablo was completed, work has been pushed westward rapidly. The track is laid to Williams, Arizona, 66 miles west from the Cañon Diablo, 368 miles from Isleta, the junction with the Atchison, Topeka & Santa Fe, and 378 miles from Albuquerque, N. M. There remain 188 miles of track to be laid to reach the Colorado River.

Baltimore & Delta.—Work is being pushed on this road and fair progress has been made. Tracklaying is in progress on the 15 miles from Towson town, Md., to Belair, and the company hopes to complete this section next month. Tracklaying will soon be begun from Delta southward.

Baltimore & Ohio.—At a meeting held in Baltimore, June 14, the board unanimously adopted a plan, recommended by the chief officers of the company and approved by the committees on construction and repairs and on transportation and machinery, embracing an annual inspection of the property of the company and awarding money premiums to specified officers in the Road, Transportation and Machinery departments upon the Main Stem, branches and all divisions for the most effective and judicious management as shown by the improved condition of the tracks, stations, machinery, etc. The act passed at the recent session of the General Assembly of Maryland to incorporate the Baltimore & Ohio Employés Relief Association was also accepted, and the various guarantees for the protection of the interests of the employés were adopted.

President Garrett then gave a detailed review of his recent tour of inspection over the lines of the company, and said he was gratified to state that he found them in a much improved condition and practically perfect for the transaction of an increased business. The main line and divisions have been furnished generally with new steel rails, the ballast increased, wooden bridges substituted by iron structures, and all the property is now in excellent condition.

Mr. Garrett referred at length to the present as a very advantageous time for extending the business of Baltimore and opening up new sources of traffic for the road. He said, in conclusion:

"The general policy of the company in abolishing the systems by which middle men had so long intervened between the railways and the public in services which could be better performed by the railway companies, with direct responsibility to those who employed them, received universal approval. The improved and excellent accommodations prepared by the company in furnishing parlor and sleeping cars of the most modern and perfect description, exclusively owning and working them, the substitution of the Baltimore & Ohio Express throughout its lines and immediate connections, with a perfect and approved service unconnected with separate express companies, and particularly the establishment of a great independent telegraphic system, with the most effective and best appliances for service to the public, as well as for its own uses, met the strongest appreciation and indorsement. The conviction on this subject, universally expressed, was that a single company, the Western Union, claiming to represent a capital of \$80,000,000, and attempting to grasp the whole business of the country, was a most undesirable monopoly."

"The company has determined to maintain the independence of its telegraph system, and a new Atlantic cable, which is to be constructed, will connect with the Baltimore & Ohio system and probably be landed on the shores of the Chesapeake."

Buffalo, Cayuga Valley & Pine Creek.—Surveys have been completed for this road from Pike, N. Y., to Buffalo, and the engineers are now preparing plans and specifications, in order that contracts for grading may be let.

Canadian Pacific.—The last rail has been laid on the section from Prince Arthur's Landing on Lake Superior to Winnipeg in Manitoba. But little ballasting is to be done, and regular trains will soon be put on to run over the 433 miles of this section.

Chicago, Burlington & Kansas City.—Work has been in progress for some time on the extension of this road from the old terminus at Laclede, Mo., to Kansas City. A section of 10 miles from Laclede south by west to Cunningham, the crossing of the Wabash, St. Louis & Pacific's Omaha line, has been completed and opened for business.

Cincinnati, Indianapolis, St. Louis & Chicago.—At the special meeting held June 20 the stockholders voted to approve the issue of \$1,000,000 new stock, as proposed by the board, making the capital stock \$7,000,000.

Chicago, Milwaukee & St. Paul.—It is stated that Mr. Wm. H. Vanderbilt has lately bought largely of this company's stock, the amount being reported variously at \$2,000,000 to \$4,000,000.

Cleveland, Mt. Vernon & Delaware.—A petition has been filed to set aside the last sale of this road, on the ground of informality in the appraisal and in some other proceedings prior to the sale. The court, however, refused to grant the petition, and has confirmed the sale.

Connotton Valley.—Contracts for grading on the

Straitsville Extension from Canton, O., to Beach City have been let to D. M. Carey and Kerr & Robinson. The trestle-work has been let to D. M. Carey and the masonry to Daniel Hand.

Denver, Utah & Pacific.—It was reported this week that J. S. Morgan & Co., of London, had agreed to take and place \$5,000,000 of the Denver, Utah & Pacific first-mortgage bonds. The construction company which is building this road is to receive \$18,000 per mile in bonds and \$20,000 in stock. The road will be narrow-gauge, and will run in a southwesterly direction from the city of Denver, Col., towards the Pacific coast.

East Georgia & Florida.—This company has been organized to build a railroad from Buffalo, Ga., on the Macon & Brunswick Division of the East Tennessee, Virginia & Georgia southward to the St. Mary River, the boundary line between Georgia and Florida. It will be about 50 miles long, and will connect with a branch of the Florida Transit road, completing a connection between the Macon & Brunswick and the lines to Fernandina, Jacksonville and other Florida points. Both the East Tennessee and the Florida Transit companies are represented in the board.

Edenton & Norfolk.—Surveys are being made for this road from Suffolk, Va., the crossing of the Norfolk & Western and the Seaboard & Roanoke roads, southward to Edenton, N. C., about 40 miles.

Galveston, Harrisburg & San Antonio.—On the El Paso Division (which is built and worked by the Southern Pacific) track has been laid to a point 329 miles east by south from El Paso, Tex. The road is now in a rough and hilly country where some heavy work is needed, and will advance slowly for a time.

Regular trains run to Haymond, 269 miles from El Paso, and 1,555 miles from San Francisco.

Hartford & Connecticut Valley.—It is announced that a lease of this road to the New York, New Haven & Hartford Company for 999 years has been agreed on, the yearly rental to be \$60,000. This will be 6 per cent. on the stock, the amount of which is \$1,000,000. The company has no debt, the old bonds having been converted into the stock of the present company after the foreclosure through which it obtained possession of the road. An issue of bonds has been authorized for the purpose of building an extension from Hartford to Springfield, but it is hardly probable that this will be built now. There has been some talk of a lease of the road to the Boston & Albany when the Springfield extension was completed, but this is of course superseded by the present lease.

The road extends from Hartford, Conn., to Saybrook, at the mouth of the Connecticut River, 46 miles. It was built as an independent line from Hartford, connection with New York being made by boat from Saybrook.

Latest advices are that these statements are somewhat premature. Negotiations for the lease are pending, but no final agreement has been reached.

Highland Trans-Hudson.—This company, whose road is to extend from Fishkill, N. Y., to a point west of the Hudson River near Newburg, has had a bill introduced in Congress to authorize the building of a bridge across the Hudson River between Storm King and Breakneck Mountain, near the upper end of the Highlands.

Illinois Central.—This company's statement for May gives the earnings for that month as follows:

	1882.	1881.	Inc. or Dec.	P. c.
In Illinois.....	\$534,983	\$527,266	1.	7.717
In Iowa.....	139,766	145,993	D.	6.227
Total.....	\$674,749	\$673,259	I.	\$1,490

During May, 1882, the land sales were 925.53 acres for \$5,530.78, and the cash collected on land contracts was \$8,090.92.

A dispatch from Chicago, June 17, says: "The government engineers, army officers, who were recently in session here to investigate the complaint that the Illinois Central Railroad Company was encroaching upon the rights of the government and of the city on the lake front, have reported in favor of the railroad company being granted the occupation of the land to the width of 100 ft. and one mile long, from the mouth of the Chicago River southward, on condition that the company be required to construct slips, wharves and bridges in the river harbor. The report says: The growing commerce of Chicago is now much hampered by the bridges across the Chicago River, and the part of it which passes through Chicago in transit, either to or from the lakes, will, sooner or later, demand all the facilities that piers and slips in this sheltered harbor can give, in order that the heavy freights, and especially grain, coal and lumber, may be moved with the greatest facility. Elevators, cars and vessels must lie side by side to develop the full value of the harbor. Railroad tracks must, therefore, run down the piers. It is only in this way that the full benefits of this harbor to navigation and commerce can be obtained."

Indianapolis & St. Louis.—The court has authorized the Receiver to borrow \$150,000 and issue certificates for that amount. This sum is to be used to pay outstanding claims for labor and materials.

Marietta & Cincinnati.—At the adjourned meeting of Cincinnati & Baltimore stockholders in Cincinnati, June 15, it was decided not to accept the terms offered in the reorganization. A resolution was passed directing the board to take steps to set aside the lease of the road to the Marietta & Cincinnati Company.

Massachusetts Central.—The following agreement is being circulated among the bondholders of this road:

"We, the undersigned, hereby severally subscribe and agree to pay to Lyman Hollingsworth, Moses W. Richardson and Samuel N. Aldrich, a committee of the subscribers, the sums set opposite to our respective names, in installments, when called by said committee, for the purpose of completing the construction of the Massachusetts Central Railroad to the village of Ware, operating the same and paying the taxes due the commonwealth of Massachusetts, this subscription not to be binding until it amounts to the sum of \$150,000 and is approved by said committee, and until the subscribers hereto shall have selected eight members of the board of directors of said railroad company, each subscriber hereto being entitled for such purpose to one vote, either in person or by proxy, for each \$1,000 first-mortgage bond of said railroad company held by him (a majority of bonds determining the selection), and, until said railroad company shall have voted to issue to the subscribers hereto the obligations of the company drawing interest at six per cent. per annum, payable before any dividend shall be paid on the common stock of said company, any vacancy in said committee to be filled by the continuing members thereof, this subscription not binding unless the \$150,000 is secured in sixty days. Every bondholder is at liberty to subscribe such sum as he pleases, but the general plan is to subscribe \$50 for each bond of \$1,000, and if all subscribe, \$175,000 will be realized, which would be ample to pay the state tax of \$9,500, and complete the 24½ miles of road from Jefferson's to Ware."

Meriden & Cromwell.—Nearly all of the \$300,000 required to build this proposed road have been subscribed. It is to extend from Meriden, Conn., to Cromwell, on the Hartford & Connecticut Valley road, and will be 11 miles long.

Michigan Central.—The Boston *Advertiser* says: "The following circular is about to be sent to stockholders of record for signature, and is expected to be favorably entertained by the company's directors: 'To the Board of Directors of the Michigan Central Railroad Company.—The undersigned stockholders of the Michigan Central Railroad Company desire to call your attention to the fact that on Oct. 1, 1882, and April 1, 1883, bonds of this company to the amount of \$2,700,000 will become due and payable, and that according to the last annual report of the company there were on Dec. 31 last, in the hands of the trustees of the sinking funds, applicable to the payment of these bonds, securities of the aggregate value of about \$2,000,000. Inasmuch as these sinking funds have been accumulated out of the earnings of the company, and therefore of right belong to the stockholders, the undersigned deem it no more than just that the stockholders of the company should have an equivalent for the amount of bonds thus to be paid off. The undersigned therefore respectfully request that the issue of say \$2,261,796 of new stock (enough to make the capital stock up to \$21,000,000) be issued ratably to the present stockholders upon payment by them proportionately of such amount as may be required to make up the deficiency between the sum realized from the sinking funds and the amount of the principal of the bonds to be redeemed.'"

Nevada & Oregon.—Work on this road is now progressing steadily. The road is graded from Reno, Nev., north to Long Valley, 39 miles; 13 trestle bridges have been built and track laid for 19 miles. The company expects to have trains running to Long Valley in July, and to Houey Lake, 82 miles from Reno, this year. The road is to run to the Oregon border at Goose Lake.

New York & New England.—A special meeting was held in Boston, June 15, for the purpose of voting upon the acceptance of acts passed by the Legislatures of Massachusetts, Rhode Island and Connecticut. The act of the Legislature of Massachusetts provides that the Treasurer of the commonwealth may sell, subject to approval by the Governor and Council, the whole or any part of the shares of the capital stock (\$3,500,000) of the road owned by the state, or he may transfer the stock to the company in exchange for bonds payable in 20 years, with interest semi-annually at a rate of 6 per cent. per annum, secured by a second mortgage of the road, franchises, equipment and other property of the company. The mortgage is to be made to three trustees, two of whom shall be residents of the state. The company is further authorized to issue additional bonds to an amount which, together with those issued to the state, shall not exceed \$5,000,000, for the purpose of procuring equipment, increasing terminal facilities, laying a second track and providing for its unsecured liabilities. The Legislatures of Rhode Island and Connecticut passed acts to enable the company to carry out the provisions of the above-named law, the Connecticut law providing also that one of the trustees shall be a resident of Connecticut.

Resolutions were unanimously passed providing for carrying into effect the acceptance of the above-named acts, naming William T. Hart of Boston, Lucius C. Kingsbury of Waterbury, Conn., and Eustace C. Fitz of Chelsea, as the three trustees, and providing that the state's stock should be offered pro rata to the present stockholders at the rate of \$50 per share.

President Wilson said he thought that would be a good time to say a word regarding the prospects of the road, and then stated that for the months of October, November, December, January, February, March, April and May, the gross earnings were \$1,980,140.98, against \$1,633,938.87 for the same month last year, being an increase of \$346,202.11. It was impossible to give the net earnings, as returns for the last two months were not in, but he could say that the net earnings through the winter months run in excess of the same months last year. He stated that it is not proposed to issue at present any more bonds than are needed to take up the state stock, putting out additional bonds no faster than needed to complete improvements.

New York City & Northern.—The New York Supreme Court has denied the petition of certain bondholders for the appointment of a second receiver, and has also denied their petition to intervene in the suit, holding that the present proceedings against the company do not interfere with their rights, and that the Receiver is a proper and fully competent person, and will, under orders of the Court, protect all parties in the case.

New York, West Shore & Buffalo.—A dispatch from Poughkeepsie, N. Y., June 21, says: "An important meeting of the leading officers of the West Shore Railroad was held to-day, and orders were issued directing all contract work to be finished by Nov. 1. In response hundreds of additional men will be put at work between Newburg and West Park to-morrow or next day. There are 35,000 laborers, nearly 800 civil engineers, 600 steam drills, and 21 locomotives at work on the road at a daily expense of \$100,000."

Northeastern, of Georgia.—Track on this road is completed to Turnersville, Ga., nine miles beyond the late terminus at Clarksville, 17 miles from Rabun Gap Junction and 30 miles from the Air Line crossing at Lula. Regular trains begin to run to Turnersville June 22. There remain 4½ miles of track to be laid to complete the road to Tallulah Falls.

Northern Pacific.—The St. Paul *Pioneer-Press* gives the following statements in relation to the branches of this road in Minnesota and Dakota:

"The branches in which the Northern Pacific is interested are the Little Falls & Dakota, running from Little Falls southwesterly through Sauk Centre and Morris, into the territory of Dakota about 125 miles. Over 1,000 men are now at work between Little Falls and Sauk Centre. Grading is so far completed on this branch that no delay will be experienced in tracklaying, which was commenced June 1, to be completed to Morris Sept. 1. The Northern Pacific, Fergus & Black Hills Railroad leaves the main line at Wadena, and is now being operated from there to Fergus Falls, a distance of 50 miles, and to be extended to Breckinridge. From Fergus Falls a road is being built up to Pelican Rapids, on which tracklaying is in progress, and 11 miles now laid. It will reach Pelican Rapids July 15. At Fargo the Fargo & Southwestern Railroad branches off southwesterly, and tracklaying is about to be commenced. The grading is practically completed to the town of Lisbon, 55 miles from Fargo. The road is to run to Grand Rapids, the whole line being about 80 miles long. From Casselton, the Casselton Branch runs nearly due north to Mayville, and is in operation to the latter point—43 miles from Casselton. Grading is completed 25 miles beyond. The Jamestown Northern Railroad leaves the main line at Jamestown and is graded for 14 miles. No track has yet been laid on

this branch. It is heading for Fort Totten from Jamestown and will be completed by winter, a distance of 125 miles. A line has been surveyed from Bismarck up the Missouri River to Fort Buford, about 200 miles. A survey has been made from Billings to Fort Benton, and from Helena to Fort Benton, but the route is not yet determined upon."

Oregon Railway & Navigation Co.—On the branch from Umatilla, Or., to Baker City, track has been laid to the second crossing of the Umatilla River, 39 miles from Umatilla. At this point a bridge has to be built, which will delay tracklayers for a short time.

Pennsylvania.—This company has put on a line of through sleeping cars to run between New York and Chattanooga. The route is over this road to Harrisburg, the Cumberland Valley to Hagerstown, the Shenandoah Valley to Roanoke, the Norfolk & Western to Bristol, and the East Tennessee, Virginia & Georgia to Chattanooga. The time from New York to Chattanooga is about 36 hours.

The latest time-table (June 18) shows that on each week day 125 passenger trains arrive at the Broad street passenger station in Philadelphia, and 127 trains depart, making a total movement of 252 trains. On Sunday 69 trains arrive and 72 depart, making a total of 141 trains. This includes the trains of the main line, the New York Division and the Philadelphia, Wilmington & Baltimore road. Of the departing trains on week days, 49 leave in the 5 hours from 2 to 6 p. m., an average of a train every six minutes.

Petroleum Railway, of Pennsylvania.—Under this title a new company has been organized by the parties who bought the property of the old Pennsylvania Petroleum Company at foreclosure sale some time ago. The new incorporators are chiefly residents of Titusville, Pa., but two of them are officers of the Shenango & Allegheny road. The road was partly graded from Titusville to Erie some 10 years ago, but no track has ever been laid on it.

Philadelphia & Reading.—The Receivers have decided to pay the January coupons of the general mortgage bonds and the past due coupons of the income bonds, the last payment on which was made in June, 1880. The sum required to do this is between \$800,000 and \$1,000,000. It is understood that the money has been received from London, from the proceeds of the first subscription for the new consolidated bonds.

The Receivers' statement for May and the six months of the fiscal year from Dec. 1 to May 31, is as follows:

	May.	Net.	Six months.
Railroad Co.	Gross.		
Railroad traffic.....	\$1,574,121	\$719,201	\$3,796,488
Canal traffic.....	76,309	35,308	13,384
Steam colliers.....	50,257	10,141	108,391
Richmond barges.....	2,782	3,617	9,343
Total R. R. Co.	\$1,703,469	\$769,933	\$3,912,152
Coal & Iron Co.	1,174,540	19,941	255,288
Total.....	\$2,878,009	\$789,874	\$4,167,440

* Loss.

Expenses do not include interest or rentals, the net earnings being the amounts from which those charges are to be paid.

A comparison of net earnings is as follows:

	May.	Net.	Six months.
Railroad Co.	1882.	1881.	1881.
Railroad Co.	\$760,933	\$779,524	\$3,912,152
Coal & Iron Co.	19,941	46,331	255,288
Total.....	\$780,874	\$825,855	\$4,167,440

For the month there was a decrease in the Railroad Company of \$19,591, or 2.4 per cent.; in both companies of \$45,281, or 5.5 per cent. For the half-year the Railroad Company shows a gain of \$358,108, or 10.1 per cent., and both companies an increase of \$318,209, or 8.3 per cent. The Coal & Iron Company has a considerable decrease, both for the month and the half-year. It may be said that the six months now closed are the worse half of the year for the coal trade.

Pittsburgh & Western.—A large force is now employed on this road between Allegheny, Pa., and Zelenople, the old section, widening cuts and tunnels, straightening the line at several points and laying a third rail for standard gauge. The road from Pittsburgh westward is to be made of standard gauge, but a third rail for narrow-gauge will be retained as far as Hiawatha, 25 miles from Pittsburgh. From this point a narrow-gauge branch will be built to Butler, about 15 miles, which will be extended to Parker by the Kearns City & Butler and the Parker & Kearns City roads, now controlled by this company. From Parker a narrow-gauge extension will be built to Foxburg, about six miles, completing a line from Pittsburgh to a connection with the Pittsburgh, Bradford & Buffalo road.

Quincy Union Depot.—A conference is to be held shortly in Quincy, Ill., between officers of the railroads entering the city and the city officials, in relation to the building of a union passenger station corresponding in size and style to the requirements of the business done there.

Richmond & Danville.—It will be remembered that some time ago the majority of the stock of this company was put into a close pool, the stock being held by trustees. The object of this pool was to prevent any change in the control of the road. Last week a meeting was held in Richmond, at which it was resolved to open the pool for 30 days, giving those in it an opportunity to draw out, or outsiders a chance to come in.

The object of this proceeding was not clearly apparent to outsiders. It is now reported that the intention was to permit some of the large stockholders in the pool to transfer their stock, and that the real purchaser is the Baltimore & Ohio Company.

Should this report be true and the Baltimore & Ohio succeed in obtaining a controlling interest, the change will be an important one for both companies. The Baltimore & Ohio long had a desire for a southern connection, and spent a good deal of money to secure it. Its southern plans were, however, apparently abandoned last year, when it sold out its interest in the Virginia Midland to the Terminal Company, which is an organization subordinate to the Richmond & Danville. The present report lacks confirmation as yet, and may be merely a rumor started by the opening of the pool.

Rochester & Ontario Belt.—The Rochester *Post-Express* says: "The Rochester & Ontario Belt Railroad Company, it will be remembered, filed its map some time ago—nearly or quite a year—and it created considerable interest at that time. Of late, however, little or nothing has been heard of it. The backers of the scheme, however, have been far from idle, and we are to-day at liberty to state definitely that the contract for the construction of the road from the ridge to Summerville has been let to Col. Thomas Moore, of New Jersey. This gentleman is a railroad builder of experience. He is to have trains running by Aug. 1, according to the contract, and those who know him best have not the slightest doubt but he will be able to fulfill. The contract includes the equipment of the road as

well as the building; it is to be laid with iron rails and of the standard gauge; the cars will be open coaches, and rails, cars and locomotives have already been ordered. It will be observed that this does not include the bridge at Deep Hollow nor the road connecting therewith, and the various railroad lines for freight business, which is a portion of the plan proposed; the portion let will be used for a pleasure road this year, and next year will doubtless be increased, while at the same time the bridge from Avenue B to the west side at Deep Hollow will probably be built and the rails will be extended west and south as contemplated."

Rome, Watertown & Ogdensburg.—Under the plan of reorganization of this company, the Purchasing Committee were authorized to reorganize the company without a sale of the road. Ninety-seven per cent. of the bonds and over 80 per cent. of the stock having been deposited under the plan, the committee have decided that it would be inadvisable to sell the road. The Farmers' Loan & Trust Company of New York are issuing the new securities in exchange for certificates of old bonds and stock.

St. Louis Bridge.—It is reported that negotiations are pending for the construction of a new bridge over the Mississippi at St. Louis. The parties concerned are the Pennsylvania Company, the Baltimore & Ohio and the Chicago & Alton. The report is that the other roads are much dissatisfied with the management of the present bridge since it passed into the control of the Gould interest and that they want a crossing controlled by themselves.

A Chicago dispatch says that the Chicago & Alton officers say that that company has no intention of joining in the building of a new bridge.

St. Louis, Ft. Scott & Wichita.—Track on this road is now completed to Eureka, the county seat of Greenwood County, Kan. This is 19½ miles from the late terminus at Toronto, and 96½ miles from the starting point at Ft. Scott. This road has all been built in about a year, grading having been begun May 1, 1881.

Work has been begun on the grading of the extension from Eureka westward, and the company hopes to have it done to Eldorado, 35 miles, by August.

St. Louis, Iron Mountain & Southern.—Work will soon be begun on a branch which will start from Newport, Ark., on White River, and run northwest for a short distance and then due west to Eureka Springs in Boone County. It will be 170 miles long.

St. Paul, Minneapolis & Manitoba.—The St. Paul Pioneer-Press says of the progress of new work on this road: "The company will, during the summer, construct 340 to 350 miles of road in all, most of which mileage is indicated in the following paragraphs:

"The graders have finished 25 miles northwest from Laramore, and in a week from now steel rails will be laid on the same. The engineers are still in the field and ahead of the shovel brigade. The objective point is the Turtle Mountain country but the course of the extension is liable to deviate from present plans.

"The line from Ripon on the Durbin Extension is being finished to Hope, a distance of 30 miles from Ripon. The tracklayers are at work and will finish up in sixty days.

"West from Wahpeton 40 miles is graded, running into Ransom County, D. T.

"The extension east from Morris is nearly graded for a distance of 25 miles. Ultimate terminus not yet determined, though probably it will be near St. Cloud.

"The Clearwater Branch will reach St. Cloud probably by Aug. 1.

"The St. Cloud & Duluth line, 66 miles long, will be finished by Aug. 1. The bridges are near finished. Ten miles are already laid with track. The road will be ready for the fall crop, between St. Cloud and Hinckley.

"A connection line is now being surveyed, 30 miles long, to run from Crookston to Red River Falls. It does not belong to the Manitoba line, but will probably affiliate with it.

"The track is now being laid from Grafton north to the boundary line, a distance of 40 miles, to be finished by harvest.

"When all this work shall be finished the Manitoba line will have 1,400 miles of road."

San Joaquin & Sierra Nevada.—This road is reported finished from Lodi station on the Central Pacific road, westward to Woodbridge on the Mokelumne River, a distance of three miles. Regular trains are running.

Saratoga, Mt. McGregor & Lake George.—Track on this road is now laid from Saratoga, N. Y., northward 6½ miles, leaving four miles still to be laid to reach Mt. McGregor.

Seaboard & Raleigh.—Tracklaying is progressing on this road, and the rails have been laid from Williamston, N. C., west three miles. The contractors will soon begin to lay track from Tarboro also.

Securities on the New York Stock Exchange.—The following securities have been put on the lists at the New York Stock Exchange:

Allegheny Central, \$1,000,000 stock, \$600,000 first mortgage 6 per cent. bonds, and \$300,000 income 6 per cent. bonds.

Chicago, Burlington & Quincy, \$7,968,000 new 4 per cent. bonds issued in exchange for Republican Valley 5s, and \$4,300,000 new 4 per cent. bonds issued for purchase of Kansas City, St. Joseph & Council Bluffs securities.

Chicago, Milwaukee & St. Paul, \$1,000,000 additional Chicago & Pacific Western Division 5 per cent. bonds.

Gulf, Colorado & Santa Fe, \$684,000 additional first mortgage 7 per cent. bonds on 57 miles of new road.

Illinois Central, guaranteed 5 per cent. Chicago, St. Louis & New Orleans bonds. Total issue authorized, \$18,000,000, to exchange for other bonds of the same road; amount already issued, \$10,435,000.

Missouri, Kansas & Texas, \$1,715,000 additional consolidated 6 per cent. bonds; \$715,000 issued on new road and \$1,000,000 for purchase of equipment.

Shenandoah Valley.—This road was formally opened through to the junction with the Norfolk & Western at Roanoke, Va., on June 19. Regular trains now run through from Hagerstown to Roanoke, 238 miles.

Silver City, Deming & Pacific.—Work is in progress on this grading of this road from Deming, N. M., to the mines at Silver City.

Southern Pacific.—On the branch from Mohave, Cal., to the Colorado River, which is to connect with the Atlantic & Pacific, the grading has been completed for 40 miles, and track has been laid for 21 miles eastward from Mohave.

South Florida.—A controlling interest in this road has been sold to the Reed syndicate, which owns the Florida Transit and the Florida Central and Western roads and their branches. This road is of 3 feet gauge, and is now in operation from Sanford, Fla., to Kissimmee, 40 miles.

Springfield & Southern.—This company has been organized to build a branch of the St. Louis & San Francisco

road from Springfield, Mo., to the Arkansas line in Taney County, and thence to Harrison, Ark. The line is nearly due south, and about 100 miles long. A future extension from Harrison south to the Arkansas River, near Russellville, is proposed.

Stony Clove & Catskill Mountain.—This road is now completed to Hunter, N. Y., two miles beyond the late terminus at Tannersville Junction, and 14 miles from the junction with the Ulster & Delaware road at Phoenixia. This road was formally opened for traffic last week. Hunter is in the heart of the mountain region, which is full of summer boarders every year, and is a very convenient starting point for the stage lines to the many villages of the region.

Toledo Union Depot.—Negotiations are pending for the building of a union passenger station at Toledo, O., large enough to accommodate all the roads entering the city. The matter depends chiefly upon the decision of the Lake Shore offices.

Utah & California Short Line.—This company has been incorporated in Utah. Its object is to run a line of railroad from Salina on the Sevier River, north via Manti, Ephraim and Moroni, to Draper, connecting with the San Pete Valley Railway; and from Nephi to Springville, connecting at that point with the Denver & Rio Grande Railway. This would give a continuous line of railway from Salina to Salt Lake.

Washington & Western.—Surveys are being made for the extension of this road from Round Hill, Va., to Winchester, about 20 miles. The new owners have made a reduction of 25 per cent. in both freight and passenger rates, and report a large increase in business.

ANNUAL REPORTS.

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Cincinnati, Indianapolis, St. Louis & Chicago.

At the special meeting held June 20 the following statement was presented of the operations of this road for the year ending June 30, June partly estimated:

Earnings (\$8,401 per mile).....	\$2,520,323
Expenses (\$8.47 per cent.).....	1,473,395
Net earnings (\$3,490 per mile).....	\$1,046,928
Interest and rentals.....	\$631,599
Dividends, 6 per cent.....	360,000
	991,599

Surplus for the year.....\$55,339
As compared with the previous year there was an increase of \$155,265, or 6.6 per cent., in gross earnings; of \$69,827, or 4.9 per cent., in expenses, and of \$85,438, or 8.9 per cent., in net earnings.

Queen Anne's & Kent.

This company owns a line from Masses, Md., to Centerville, 26 miles. It is one of the short lines which run across the Eastern Shore and have their outlet in the Delaware Railroad. The following statements are from the report for the year ending April 30 presented at the recent annual meeting.

The earnings for the year were as follows:	
Earnings.....	1881-82. 1880-81. Inc. or Dec. P. c.
Expenses.....	\$20,483 \$24,336 D. \$3,853 15.8
Deficit.....	30,258 22,634 I. 7,624 33.7
Net earnings.....	\$9,775 \$1,702
Gross earn. per mile.....	788 938 D. \$148 15.8
Net " " ".....	65
Per cent. of exps.....	147.7 93.0 I. 54.7

The loss in earnings is due to the failure of last year's peach crop, depriving the road of one of its chief sources of traffic.

The increase in expenses was due to extensive repairs of road and bridges, the building of several new stations and a telegraph line and the purchase of new equipment, all charged to expenses.

Sussex.

This company owns a line from Waterloo, N. J., to Franklin Furnace, 24.10 miles, with a branch from Junction to Branchville, 6.21 miles, making 30.31 miles in all. A branch from Hamburg Junction to McAfee Valley, 3.50

miles, formerly owned, was last year sold to the Lehigh & Hudson River Company. The report is for the year ending Dec. 31.

The stock and bonds were as follows:

Stock.....	\$1,638,600
Bonds.....	236,500
Total.....	\$1,875,100
Cost of road.....	\$1,797,429
" " equipment.....	82,178
	1,879,607

Balance, earnings used in construction.....\$4,507
There was no change in stock and bonds during the year. The bonds are first mortgage, 7 per cent. bonds.

The earnings for the year were as follows:

	1881. 1880. Inc. or Dec. P. c.
Freight.....	\$108,914 \$81,866 I. \$27,048 33.0
Passengers.....	25,145 26,417 D. 1,272 4.4
Other.....	13,043 25,458 D. 12,415 48.7
Total.....	\$147,102 \$133,741 I. \$13,361 10.0
Expenses.....	113,853 126,608 D. 12,755 10.1
Net earnings.....	\$33,249 \$7,133 I. \$26,116 361.9
Gross earn. per mile.....	4,853 3,934 I. 919 23.4
Net " " ".....	1,097 210 I. 887 422.4
Per cent. of exps.....	77.45 94.66 D. 17.21

The annual interest charge is \$16,555. This would leave a surplus of \$16,694. Last year a dividend of 2 per cent. was paid, amounting to \$32,772, or \$16,078 in excess of the surplus for the year, the amount being made up from the surplus of former years, in which no dividends were paid.

The traffic of the road is chiefly in milk, iron ore, lime and coal. It is now controlled by the Delaware, Lackawanna & Western Company.

Ogdensburg & Lake Champlain.

This company owns a line from Ogdensburg, N. Y., to Rouses Point, 122 miles. Its report is for the year ending March 31 last.

The equipment of the road now consists of 30 locomotives, 14 passenger cars, 6 baggage and smoking cars, 12 caboose cars, 481 long box cars, 751 short box cars, 38 stock cars, 39 butter and egg cars, 13 rack cars, 35 ore cars, 98 platform cars.

The general account is as follows:

Stock.....	\$3,077,000.00
Preferred stock not exchanged.....	2,700.00
Bonded debt.....	3,394,290.00
Bills payable.....	510,000.00
Unpaid coupons, April coupons.....	46,000.00
Bills and accounts.....	68,073.98
Total.....	\$7,098,123.96
Road and property.....	\$6,144,849.52
Sinking fund bonds held.....	21,020.00
Vermont Central line claim.....	392,000.00
Accounts and balances.....	56,317.71
Materials.....	159,658.30
New rails.....	42,091.70
Cash.....	22,305.49
	6,838,252.72

Balance, excess of liabilities.....\$259,871.24

The bonded debt consists of \$600,000 first mortgage bonds, \$392,000 sinking fund bonds, \$1,403,610 first consolidated bonds and \$998,650 income mortgage bonds. It was increased during the year by \$24,890 consolidated and \$13,850 income bonds. The preferred stock not exchanged was decreased by the exchange of \$27,700 during the year. The amount of common stock remains unchanged.

The earnings for the year were as follows:

	1881-82. 1880-81. Inc. or Dec. P. c.
Freight.....	\$389,238 \$385,272 I. \$3,966 1.0
Passengers.....	115,450 108,032 I. 7,418 6.9
Mail, etc.....	36,470 34,790 I. 1,680 4.8
Car service, balance.....	68,167 50,592 I. 17,575 34.4
Total.....	\$609,325 \$578,686 I. \$30,639 5.3
Expenses.....	438,470 383,210 I. 55,260 14.4
Net earnings.....	\$170,855 \$195,476 D. \$24,621 12.6
Gross earn. per mile.....	4,994 4,743 I. 251 5.3
Net " " ".....	1,400 1,602 D. 202 12.6
Per cent. of exps.....	71.96 66.22 I. 5.74

Earnings were reduced and expenses increased by an increased traffic at very low rates.

The income account was as follows:

Net earnings, as above.....	\$170,854.80
Interest on bonds.....	\$151,890.00
floating debt.....	15,573.34
	167,263.34

Surplus for the year.....\$2,591.56
Debit balance, April 1, 1881.....263,462.80

Debit balance, April 1, 1882.....\$259,871.24

The directors say: "There has been added to our equipment this year and charged to construction account 285 new long box cars, 10 new Tiffany refrigerator butter cars, 4 new passenger coaches and 4 caboose cars. We laid, early in the year, 1,000 tons steel rails, and charged the difference between the steel and new iron to improvement and the difference between new and old iron to expenses. The additions thus made to our road and equipment account amount to \$329,082.41.

"We have since laid another thousand tons of steel rails, which are being charged, in the same proportions, to improvement and expenses for 1882. It is hoped that this may be sufficient to keep the road in good condition during the coming year. About 3,500 tons more of steel rails will be required to finish the main track. We are now building about 14 cars per week in our shops in addition to our usual repairs.

"We have built an ice house at Rouses Point and two new car houses at Ogdensburg and have repaired and painted many of the other buildings and bridges.

"Our depot at Rouses Point is not in the location desired, and, in the near future, we think it advisable that a new union depot be built that shall accommodate all connecting roads.

"Contracts for business have been renewed with the Collingwood line for a large increase over last year. We are now receiving large amounts from Toledo, via the Welland Canal. Several cargoes of upwards of 40,000 bushels each have arrived at Ogdensburg. The canal is now open with 12 feet of water, and with a prospect of being deepened within two years so that the largest propellers on the lakes can then reach our docks. We are now dredging a channel so as to allow them to come to the elevator at the lowest stage of the river.

"We have petitioned the general government, with good prospect of success, for an appropriation to assist in dredging the harbor at Ogdensburg, which will give us as great a depth of water as any other route and further East than any other.

"Had it not been for the extreme low rates for which the through business has been taken the past year our receipts would have been quite largely increased. The future promises more remunerative rates than have been maintained the past year."